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BRITISH BIRDS.

VOL. III.

A

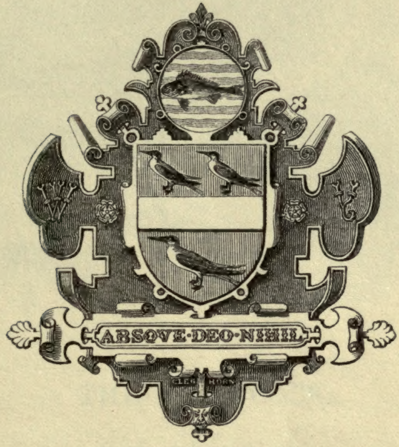
HISTORY

OF

BRITISH BIRDS.

BY

WILLIAM YARRELL, F.L.S. V.P.Z.S.


ABSQVE·DEO·NIHIL
CLEGHORN

ILLUSTRATED BY 535 WOOD-ENGRAVINGS.

IN THREE VOLUMES.—VOL. III.

SECOND EDITION.

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M.DCCC.XLV.

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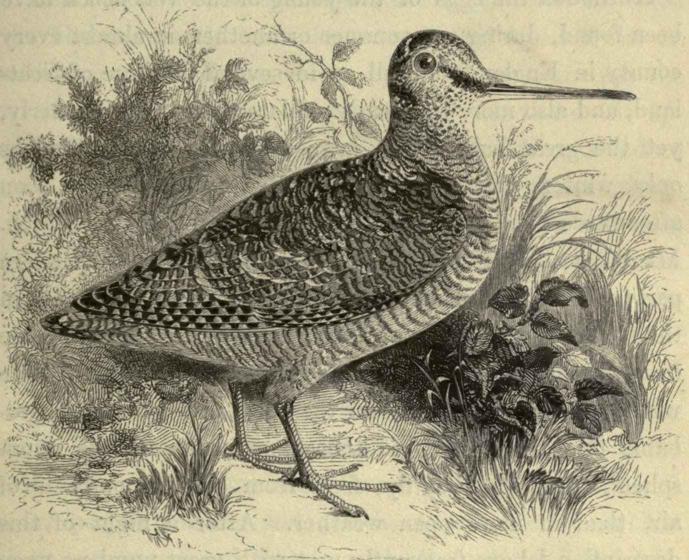
BRITISH BIRDS.



THE WOODCOCK.

Scolopax rusticola.

Scolopax rusticola, The Woodcock,	Penn. Brit. Zool. vol. ii. p. 40.
„ „ „ „	Montagu, Ornith. Dict.
„ „ „ „	Bewick, Brit. Birds, vol. ii. p. 45.
„ „ „ „	Flem. Brit. An. p. 105.
„ „ „ „	Selby, Brit. Ornith. vol. ii. p. 107.
„ „ „ „	Jenyns, Brit. Vert. p. 204.
„ „ „ „	Gould, Birds of Europe, pt. xvii.
„ „ *Bécasse ordinaire,*	Temm. Man. d'Ornith. vol. ii. p. 673.

Scolopax. *Generic Characters.*—Beak long, straight, compressed, slender, soft, slightly curved at the point; both mandibles grooved over the basal half of their length; point of the upper mandible extending beyond that of the lower

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mandible, the curved part forming a slight crook ; superior ridge elevated at the base, prominent. Nostrils lateral, basal, pierced longitudinally near the edges of the mandible, covered by a membrane. Legs moderate, slender, naked space on the tibia, but short, or entirely wanting ; three toes before, one behind, the anterior toes entirely, or almost entirely, divided. Wings moderate, the first or the second quill-feather the longest in the wing.

Although the eggs or the young of the Woodcock have been found, during one summer or another, in almost every county in England, as well as in several of those of Scotland, and also more frequently of late years than formerly, yet the great bulk of the species must be understood as only winter visiters, arriving early in October, or soon afterwards, and again departing northwards in March. Mr. Selby, one of our best observers, residing in the eastern part of Northumberland, and only four or five miles from the sea, says, "I have found that these birds always come over in the greatest bodies in hazy weather, with little wind, and that blowing from the north-east ; and it is probable that they then find the upper region of the atmosphere, in which they fly, freer from counter currents of air, than in more open weather. After a night of this description I have frequently met with great numbers upon the edges of plantations, in hedges, and even in turnip-fields, and enjoyed excellent sport for the day; but on seeking, on the following morning, for a renewal of similar success, I have not found a single bird, the whole flight having proceeded on their course during the intervening night. It is during this time that Woodcocks, like most migratory birds, perform their journeys: and it seems probable that those which halt upon the eastern coast of Scotland, and the northern counties of England, have completed their task from shore to shore, between sunset and sunrise, as they appear but little fatigued on their arrival, provided the weather has been calm. The distance of the coasts of

Norway and Sweden, from whence these visiters are supposed to come, offers no objection to this supposition, as a continued flight of eight or ten hours, even at a rate inferior to what I conceive they are capable of accomplishing, would suffice for the transit. Another argument in favour of this supposition, is the high state of condition in which the birds generally arrive on our shores, especially at an advanced period of the season, by no means indicating the wasting effects of very long-continued exertions. It appears that they fly at a considerable altitude, as indeed most birds do when performing their migratory movements. A respectable person who lived upon the coast, and who, being a keen pursuer of wild-fowl, was in the habit of frequenting the seashore at an early hour in the morning, assured me that he had more than once noticed the arrival of a flight of Woodcocks coming from the north-east just at day-dawn. His notice was first attracted by a peculiar sound in the air over his head, that, upon attending to, he found proceeded from birds descending in a direction almost perpendicular; and which, upon approaching the shore, separated and flew towards the interior; these he pursued and shot, and which proved, as he surmised by the view he had of them as they flew past him, to be Woodcocks." Mr. Selby has also observed that "the first flights of these birds, which seldom remain longer than for a few days, and then pass southward, consist chiefly of females; whilst, on the contrary, the subsequent and latest flights which continue with us, are principally composed of males. It has been noticed by several authors, that the arrival of the males, in a number of our summer visitants, precedes that of the females by many days; a fact from which we might infer, that in such species a similar separation exists between the sexes during their æquatorial migration." The circumstance of the separation for a time of the males and females in the Woodcock, or Woodsnipe, as it is sometimes called, accounts for the result which occurred at the early part of the present Woodcock season. On making internal examination of twelve Woodcocks, from one locality, for the purpose of ascertaining the sex, for my use in this work, only two of them proved to be males.

Under the influence of a north-east wind, their course is probably between south and west; this will account for the numbers of Woodcocks found in Devonshire, Cornwall, in Wales, and in Ireland; the birds in many instances pursuing their course till they reach the sea, or returning, if possible, when they have overshot the land. In Ireland, says the Rev. Mr. Daniel, in his Rural Sports, "the Earl of Claremont shot fifty couple in one day; but it should be premised that such was the abundance of these birds as to be sold in some parts near Ballyshannon, in the county of Donegal, for one penny each, and the expense of powder and shot." The author of Wild Sports of the West, says, "the Woodcock-shooting in the West of Ireland is acknowledged to be very superior; and when the flight has been large, and the season is sufficiently severe to drive the birds well to cover, there is not, to a quick eye, more beautiful shooting in the world. Some of the covers are copses of natural wood, situated in the very centre of the mountains; consequently, when the snow falls, every Woodcock for miles around deserts the heath, and seeks the nearest shelter. Then will the sportsman be amply repaid for his labour. From a copse of not more than thirty acres' extent, I have seen fifty couple of Woodcocks flushed; and as several excellent covers lay in the immediate vicinity, it was no uncommon thing for two or three guns to bring home twenty, nay, thirty couple. I have known a party fire a number of shots that would appear incredible ; and I have more than once expended my last charge of powder, and left, for want of ammunition, one or two copses untried." It is recorded in Daniel's Rural Sports, that Mr. Yea of Swansea, killed one hundred couple of Woodcocks in the season of 1796. Gilbert White of Selborne, says, in his Journal, "a gentleman writes word from St. Mary's, Scilly, that in the night between the 10th and 11th of October, the wind being west, there fell such a flight of Woodcocks within the walls of the garrison, that he himself shot, and conveyed home, twenty-six couple, besides three couple which he wounded, but did not give himself the trouble to retrieve. On the following day, the 12th, the wind continuing west, he found but few. This person further observes, that easterly and northerly winds only have usually been remarked as propitious in bringing Woodcocks to the Scilly Islands. So that he is totally at a loss to account for this western flight, unless they came from Ireland. As they took their departure in the night between the 11th and 12th, the wind still continuing west, he supposes they were gone to make a visit to the counties of Cornwall and Devonshire. From circumstances in the letter, it appears that the ground within the lines of the garrison abounds with furze. Some Woodcocks settled in the street of St. Mary's, and ran into the houses and outhouses." A Woodcock when flushed on the coast has been known to settle on the sea, and when again disturbed, rose without difficulty and flew away. Three or four instances are recorded of Woodcocks alighting on the deck of ships in the English Channel, and that they go much farther south on their migration over the European Continent to the east of us, will be proved by the quantities found throughout the winter in various localities to be hereafter quoted.

The Woodcock is a nocturnal bird, seeking its repose by day, remaining quietly hid in the dry grassy bottoms of brakes and woods, seldom or ever moving unless disturbed. Sir Humphrey Davy in his Salmonia, says, " a laurel, or a holly bush, is a favorite place for their repose: the thick and varnished leaves of these trees prevent the radiation of heat from the soil, and they are less affected by the refrigerating influence of a clear sky, so that they afford a warm seat for the Woodcock."

Towards night it sallies forth on silent wing, pursuing a well-known track through the cover to its feeding-ground. These tracks or open glades in woods, are sometimes called cockshoots, and cockroads, and it is in these places that nets were formerly suspended for their capture, but the gun is now the more common means of obtaining them. A few may still be caught with nooses of horse-hair, set up about the springs or soft ground where the birds leave the marks of the perforations, or borings made with their beaks. The common earth-worms appear to be the food most eagerly sought after. Two or three ornithologists have borne testimony to the almost incredible quantity of earth-worms which a single Woodcock, in confinement, has been known to consume in one night; and Daniel has thus described their mode of feeding as observed in an aviary at St. Ildephonso, in Spain. " There was a fountain perpetually flowing to keep the ground moist, and trees planted for the same purpose; fresh sod was brought to them, the richest in worms that could be found. In vain did the worms seek concealment; when the Woodcock was hungry, it discovered them by the smell, stuck its beak into the ground, but never higher than the nostrils, drew them out singly, and, raising its bill into the air, it extended upon it the whole length of the worm, and in this way swallowed it smoothly, without any action of the jaws. This whole operation was performed in an instant, and the action of the Woodcock was so equal and imperceptible, that it seemed doing nothing: it never missed its aim; for this reason, and because it never plunged its bill beyond the orifice of the nostrils, it was concluded that the bird was directed to its food by smell."

Woodcocks appear to leave this country by the same route on which, as here mentioned, they have been observed to come; namely, our eastern coast. Mr. Williamson, in his remarks on birds in the vicinity of Scarborough, says, "good sport is sometimes gained at Woodcock-shooting in March, when from any cause these birds are prevented continuing their journey northward. In one or two instances a Woodcock has been seen here as late as June."

That some Woodcocks remain in this country almost every season, and produce their young here, there are many proofs, and that they are also very early breeders seems equally certain. The young are usually hatched by the end of March, or the beginning of April. In 1836, Mr. Blyth saw two young Woodcocks on the 20th of April. On the 22nd of April 1838, Mr. Gould exhibited at the Zoological Society two young Woodcocks, apparently three weeks old; and I have in my collection a young Woodcock five or six weeks old, which I bought on the 23rd of April 1822, in the market at Orleans. Scarcely a season passes that young Woodcocks are not sent up to Leadenhall Market for sale, intended for the table; these, by my notes, have generally occurred in May: the price about seven shillings each. In the Fifth

Earl of Northumberland's household book, begun in 1512, the price of a Woodcock is stated to be one penny or three-halfpence; and in the Norfolk household book, which begins with 1519, and has been frequently quoted here, the reward for four Woodcocks on the 18th of October, four-pence; and in another instance, paid for three Woodcocks, sixpence.

In proof that the Woodcock breeds frequently in the British Islands, particularly in Scotland, two or three of the most interesting of the instances are thus recorded. At the Zoological Society, July 24th 1832, a letter was read, addressed by Sir F. Mackenzie to the Secretary of the Society: it related to the breeding of some Woodcocks, *Scolopax rusticola*, Linn., at Conan, on the eastern coast of Ross-shire, the estate of that gentleman. For several years past, two or three of these birds have occasionally been seen in the woods, and about five years since a couple were shot just before St. Swithin's day: these were, however, old birds, and from their being covered with fat, it was evident that they had not nested. The keeper, in fact, had never been able to find one of their nests or to see a young bird, until the present season. In two small woods near his house he this year discovered four Woodcocks' nests, one having four, and the others three eggs each, all of which were hatched and ran. The young birds he repeatedly saw before they took wing; and now five or six couple may every evening, towards dusk, be observed flying about the lodge as they pass to their feeding-grounds. The soil where the nests were found is gravelly and rather dry; the grass tolerably long, without underwood; and the trees, oak, birch, and larch, not exceeding thirty years' growth. The situation is warm, and not one hundred and fifty feet above the level of the sea; it is not far distant from the river. The woods are kept quiet, and several pheasants' nests were hatched in their close vicinity. It is probable that the parent birds sought this spot for the purpose of breeding, as they must have arrived in the spring from other localities; for those who shot in the covers till February declare that they did not know of a single Woodcock being then left in them, and had there been two or three, the keeper must have been aware of it.—*Zool. Pro.*

Mr. W. C. Williamson, Curator to the Natural History Society, Manchester, made the following communication to Mr. Loudon for his Magazine in June 1836. Ornithologists have for some time been convinced of the fact that the Woodcock occasionally breeds in England; but the instances have been rare, and, generally, a single pair of birds, without others in the neighbourhood to evince that the stay was entirely a voluntary one. This spring, however, the nests of three pairs were found in one wood, belonging to Francis Hurt, Esq. of Alderwasley, near Derby. The nests when discovered all contained eggs, the old birds being then sitting. I wrote to Mr. Hurt on the 29th of April, requesting him to procure for our Society a nest with eggs; and two or three days after, he kindly sent me the nest, with broken shells of four eggs, which, as well as those of other nests, had been hatched even at that early period of the year. Two of the young broods, with the old birds leading them about, have been seen by the keepers of that gentleman, who remarks in his letter, that, on going to the nest, the old bird did not rise until he had approached within the distance of a yard. They were all in dry, warm, situations, amongst dead grass and leaves, without any attempt at concealment. The nest sent was wholly composed of dead leaves, chiefly of the common fern, loosely laid together, and without any lining. The underwood was thin, and of not more than from seven to ten years' growth. There was good reason to believe that Woodcocks had bred in these covers in previous years. In the tenth volume of the Magazine of Natural History, for 1837, at pages 120 and 337, are two other accounts of Woodcocks breeding in Scotland: the first at Brahan Castle, in Ross-shire, where two nests were pointed out by the keeper; the second at Castle Forbes, in Aberdeenshire. The game-keepers, both at Brahan Castle and at Conan, assured those to whom they showed the different nests, that they had seen the old Woodcocks carry their young in their claws; and this account was positively spoken to as a fact, by a third person who had witnessed it. Another writer, in the same volume, states that he had seen a similar act performed in the woods at Dunkeld, a locality in which Woodcocks have often been known to breed. In June 1842 a gentleman saw a brood in the park at Drummond Castle in Perthshire, and observed the old bird repeatedly take up one of the young ones in its claws. Bewick, quoting Buffon, says, they sometimes take a weak one under their throat, and convey it more than a thousand paces. White, in his Natural History of Selborne, quotes the words of Scopoli in reference to the Woodcock, that, "*pullos rostro portat fugiens ab hoste*," and comments upon it as improbable. A writer in the fifth volume of the magazine before quoted, page 570, mentions having seen an old Woodcock fly off with a young chick in her claws. A boy fishing disturbed a nest, the birds from which flew in different directions, one with a bird in its bill. The boy followed the weakest of the brood, and discovered it to be a young Woodcock, which is now in the possession of Mr. Burgoin, gamekeeper to the Duke of Devonshire, at Chatsworth. The bird which the boy first saw, was one of the parents conveying its offspring from the impending danger, across the river at Ashford.—*Derby Mercury.* Lastly, I may add, that Mr. L. Lloyd, in his Field Sports of the North of Europe, using the words of Mr. Grieff, who is a high authority among Scandinavian sportsmen, says, "If, in shooting, you meet with a brood of Woodcocks, and the young ones cannot fly, the old bird takes them separately between her feet, and flies from the dogs with a moaning cry."

In the spring of 1843, Mr. George Harrison, gamekeeper to the Earl of Lonsdale, found two Woodcocks' nests in Melkinthorpe woods near Lowther; each nest contained four eggs; both broods were hatched out, and went off. For several years, nests of these birds have been found nearly in the same locality. These woods are strictly preserved, and several young Woodcocks have been seen during the present summer, 1845.

Woodcock's are now known to have bred in Yorkshire, in Nottinghamshire, in Norfolk, Sussex, and in the Holt and Woolmer Forests of Hampshire: in the former, two nests were found in one small piece of fir plantation.

At the meeting of the British Association held at Cork in August 1843, Mr. Thompson of Belfast, called attention to the circumstance of the nidification of the Woodcock in Ireland, with especial reference to Tullamore Park, in the county of Down, the seat of the Earl of Roden. Here this species was first observed to remain throughout the summer, and rear its young, in 1835; since which period the numbers so remaining have been gradually on the increase; and in the year 1843, twenty-two nests have been found, so that Woodcocks now are as plentiful in summer as in winter in the park.

The nests of the Woodcock have been already noticed: the eggs are of a pale yellowish white; the larger end blotched and spotted with ash grey, and two shades of reddish yellow brown: the length one inch nine lines, by one inch four lines in breadth. I have received the eggs of this bird from Sussex and Hertfordshire, and had one presented to me in the spring of 1839, by Mr. William Rayner of Uxbridge, which was obtained about three miles north-east of that town.

Mr. Dunn says the Woodcock is occasionally seen both in Orkney and Shetland, but does not stay any time, merely resting itself on its passage to and from the countries bordering the Baltic.

Mr. Dann informs me that the Woodcock arrives in Scandinavia at the latter end of March or the beginning of April, and is seen at that period in the neighbourhood of the coast in considerable numbers, particularly if the frost be severe. They proceed into the interior, however, with the first west wind. During the summer season they are rarely to be seen on the wing, except at night. They are common and frequently to be seen crossing the Guldsbradalen (*Golden Valley*) in Norway, and flitting down the road after the sun is down, but it is rare to flush them in the forests. On the island of Hitteren, near Drontheim, they are common, and at Quickiock in Western Lapland beyond the Arctic Circle. They are widely dispersed, but nowhere numerous. The pine forests are their summer haunts. They breed also in Finland, Russia, and Siberia; Sir W. Jardine says the Woodcock is found in Silesia, sometimes called Polish Prussia, from April to October. There are said to be but few Woodcocks in

Germany, and not many in France. A few breed in Switzerland, but their numbers are very variable. Common in Italy, Corfu, Sicily, and Malta, in winter, and also still further west, south, and east. Dr. Heineken says the Woodcock is found all the year through at Madeira; they are found in Barbary, are common at Athens; and Mr. Strickland says, Woodcocks were so abundant at Smyrna during the winter of 1835-6, that many were killed in small gardens in the midst of the town; they are found also in Egypt and Aleppo. The Zoological Society have lately received notice of our Woodcock having been obtained at Cashmere. I possess a skin from India which is identical with our bird, and others have recorded them as inhabiting Thibet, Nepal and Calcutta; M. Temminck says it is also found in Japan.

The beak is dark brown at the point, pale reddish brown at the base, and generally about three inches long; the irides dark brown; the eye large, convex, and prominent; from the beak to the eye a dark brown streak: the colour of the plumage of this bird is a mixture, principally of three shades of brown; namely, pale wood-brown, chestnut-brown, and dark umber-brown; each feather on the upper surface of the body contains the three shades, but so disposed as to produce a beautifully variegated appearance. The cheeks pale wood-brown, spotted with dark brown; the forehead, to the top of the head, greyish brown; occiput and nape rich dark brown, transversely divided into three nearly equal patches by two bars of yellow wood-brown; each feather of the neck below pale brown, edged with dark brown; the back greyish brown, varied with reddish brown, and dark umber-brown; all the wing-coverts reddish brown, with open oval rings of dark brown;

primary quill-feathers blackish brown, with triangular spots of pale reddish brown along the margin of each web; secondaries and tertials of the same ground colour, blackish brown, but the light-coloured marks are more elongated, and extend from the margin of the web to the shaft of the feather; rump and upper tail-coverts chestnut-brown, tinged with grey and barred transversely with dark brown; tail-feathers black above, tipped with pure dark grey; chin very pale yellow brown; neck in front, breast, and all the under surface of the body, wood-brown, transversely barred with dark brown, both shades of brown on the under surface becoming lighter in old birds; under wing-coverts pale brown, barred with dark brown; under surface of the quill-feathers dry-slate grey, the triangular markings yellowish grey; under surface of the tail-feathers nearly black, tipped with delicate snow-white; legs and toes livid brown, claws black.

The whole length about fourteen inches and a half. From the carpal joint to the end of the wing, eight inches and a half; the second quill-feather the longest.

As in this family generally, the females of the Woodcock are larger than the males at the same age; the youngest birds have the shortest beaks. Females have the upper part of the back more black, and the lower part of the back more red, than males.

Males have the forehead more inclined to grey, with the chin white; and the space above and below the decided dark brown mark from the beak to the eye much lighter in colour, almost white, with the small dark triangular speck at the end of these light-coloured feathers better defined: the back has more of the pale brown and grey, and the rump less of the red, than the females; but the triangular marks on the outer web of the first quill-feather are rather indications of youth than of sex, and are obliterated by degrees, and in succession, from the base to the end of the feather.

The weight of a Woodcock, from its great variation, is a matter of interest with the naturalist as well as the sportsman. A young male bird of the year, in October, will sometimes weigh only seven ounces; an old female will frequently weigh fourteen or fifteen ounces. I am indebted to the kindness of Lord Braybrooke for the following particulars of some Woodcocks of very large size, with permission to attach the statements to this history.

Copy of a letter from Lady Peyton to Miss Hoste, dated Uggeshall, Dec. 25th, 1801.

"My dear Miss Hoste,

"The Woodcock which Mr. Hoste enquires after, was found sitting on a very low branch of a fir-tree in the long plantation at Narborough,* about eleven o'clock in the morning, by James Crow the postilion, who was exercising the coach-horses. He came back with the intelligence to the house, and the keeper immediately went out and shot the Woodcock. I saw it weighed both in scales and steelyards, as did Sir Henry, and a carpenter at work from Swaffham; and, wonderful as the weight may appear, it was exactly twenty-seven ounces. I believe it was about 1775 or 1776. Some years before that, a Woodcock was killed at Hadleigh, in Suffolk, which weighed twenty-four ounces."

"Lady Peyton's brother, the late Lord Stradbroke, then Sir John Rous, told me (Lord Braybrooke,) he recollected arriving at Downham, Sir Henry Peyton's residence, twenty-four hours after the Woodcock was shot, and hearing the particulars; but the bird had been dressed.

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* The snow was deep, and the bird was resting on the branch of a spruce-fir, weighed down to the ground.

"Mr. Roger Wilbraham, a great sportsman, living at Swaffham, not believing the account, summoned the carpenter many years afterwards, who confirmed all the circumstances.

"The Earl of Leicester also told me, that he, in company with Mr. Ralph Dutton, when they were young men, followed a gigantic-looking Woodcock for some hours, near Holkham, but could not get near him.

"A Woodcock shot at Audley End about seven years ago, weighed full sixteen ounces, and was much the largest-looking bird, as well as the heaviest, I ever saw."

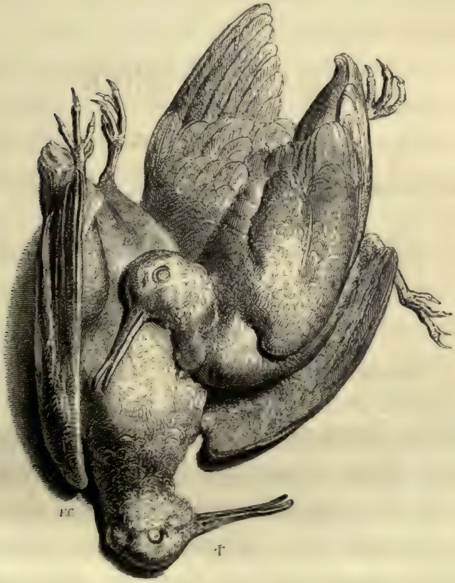
A note in the last edition of Pennant's British Zoology is as follows: "I have been credibly informed that one was killed near Holywell, which reached the weight of twenty ounces;" and in Daniel's Rural Sports there is a record of one which weighed seventeen ounces.

Varieties in plumage are not uncommon, sometimes with a portion of white, or entirely of a dull yellowish white, or buff colour.

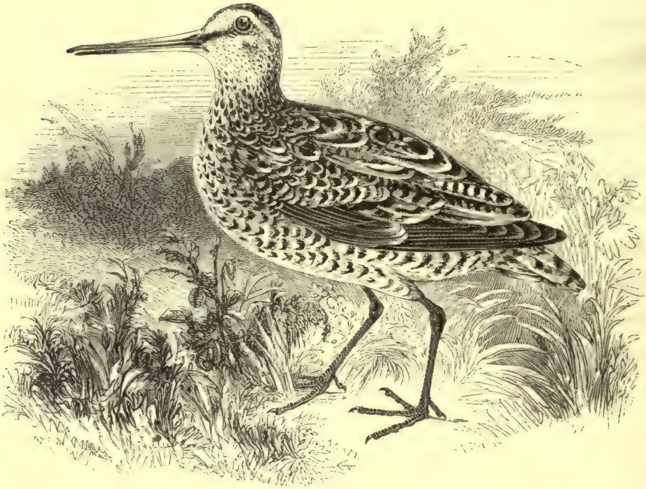
A communication was lately made to the Zoological Society to the following effect. In the year 1833 a Woodcock with white feathers in the wings was observed in a cover on the manor of Monkleigh, near Torrington, in the county of Devon. The same bird, or one of exactly similar plumage, reappeared in the same place during the four succeeding seasons, in which period it was so repeatedly shot at by different persons without effect, that it at last acquired among the country people the name of 'the witch.' In the year 1837, however, it was killed by John Piper, of Monkleigh, while following the owner of the property which it frequented, the Rev. J. T. Pine Coffin, of Portledge, who has the stuffed specimen in his possession.

In reference to the subject below, forming the vignette, I may explain that in the month of November 1830, Sir Francis Chantrey, when shooting at Holkham, killed two Woodcocks at one shot. To record this event, Sir Francis Chantrey sculptured two Woodcocks on a marble tablet, which he presented to Mr. Coke, afterwards Earl of Leicester. Sir Francis has since kindly given to me the drawing on wood, which is here engraved. The occurrence, from its singularity, has been the subject of many epigrams and complimentary verses. The following couplet was written by Hudson Gurney, Esq.

> "Driven from northern climes that would have starv'd them,
> Chantrey first shot, and then he carv'd them."



GRALLATORES. *SCOLOPACIDÆ.*



THE GREAT SNIPE.

Scolopax major.

Scolopax major, Great Snipe,	Penn. Brit. Zool. vol. ii. p. 62.
" " " "	Montagu, Ornith. Dict.
" " *Solitary* "	Bewick, Brit. Birds, vol. ii. p. 51.
" " *Great* "	Flem. Brit. An. p. 105.
" " " "	Selby, Brit. Ornith. vol. ii. p. 115.
" " " "	Jenyns, Brit. Vert. p. 205.
" " " "	Gould, Birds of Europe, pt. xvii.
" " *Grande Bécassine,*	Temm. Man. d'Ornith. vol. ii. p. 675.

The Great Snipe was first described as a British Bird by Pennant, from a specimen killed in Lancashire, preserved in the Leverian Museum, and was at that time considered a very rare bird: it was, however, probably undistinguished by many from the Common Snipe, till specific distinctions among species were closely investigated. It is now by no means uncommon, but occurs more frequently in autumn than in any other season : the major part of the examples obtained, are young birds of the year ; and from this species being known to breed in high northern latitudes, these autumnal visitants are seen while on their route to their more southern winter quarters. Their course, both in spring and in autumn, is considered by Mr. Selby to be generally to the east of the longitude of the British Islands ; and I may mention, in corroboration of this view, that I am not aware of more than one record of the occurrence of this species in Ireland, and in England they are most frequent in the eastern counties.

The habits of this Great Snipe, or Solitary Snipe, as it is often called, will be best elucidated by references to the communications and accounts of those who have enjoyed opportunities of observation in this and in other countries. The Rev. Richard Lubbock writes me from Norfolk as follows : Mr. Paget says of this bird, " not uncommon in the autumn," which is strictly true. I have known more than twenty specimens come under my own observation in the same season ; but I cannot remember a single instance where this Snipe has occurred in spring : I have made many inquiries, and have invariably found them occurring in autumn, generally early in the season, often in September. This species is very frequently found in pairs, and does not deserve to be called Solitary. On the wing it looks but little larger than the Common Snipe, and may be recognised at once by its tail, spread like a fan. Its flight is steadier and heavier, which may in some degree arise from the aptitude of the bird to make fat. I have handled more than a dozen specimens ; have shot the bird three times myself ; and all I have seen were loaded with flesh and fat. I find I have noted that Richardson, the fenman, killed six of the Great Snipes in the second week of September 1835; four of these birds were in pairs, and proved male and female respectively.

When shooting in Sweden, Mr. Lloyd says, "the Double, or Solitary Snipe, I always found singly, or at most in pairs. These birds are usually so fat in autumn as apparently to be hardly able to fly; indeed, when flushed, they usually proceed but a short distance before they settle again; their flight is heavy and steady, and they present the easiest mark possible. Four couple were the greatest number of these birds that I ever killed in Sweden in any one day. They were by no means plentiful in the vicinity of Gothenburg." That Mr. Lloyd was not advantageously located for these particular birds, may be inferred from the account of Mr. Greiff, who says "the Double Snipe is a bird of passage in Sweden, and amongst those which arrive the latest. At the end of the month of July, when the meadows are mowed, the shooting of these birds with the pointer commences, and continues till towards the end of September. In the whole round of sporting, this affords one of the greatest pleasures. These birds are easy to shoot; and in some places fifty or sixty may be killed in a day, particularly in autumn, when they are so fat that they almost burst their skins. They are most delicious eating." Mr. Greiff adds, "I was an old sportsman of thirty years' standing before it came to my knowledge that Double Snipes had their *lek* or playing-ground. I heard their cry a whole spring, which was in a marsh where I had a good *orr-lek*, but never observed them, and therefore believed it to be some frogs or reptiles; but at last I discovered they were Double Snipes, which ran like rats among the hillocks. Their cry commences with a sound resembling the smack of the tongue, and thereupon four or five louder follow." Sir Humphrey Davy says, "an excellent sportsman, and good observer, informs me, that, in the great royal decoy, or marsh-preserve, near Hanover, he has had ocular proofs of Double Snipes being raised from the nest there; but these birds require solitude and perfect quiet, and, as their food is peculiar, they demand a great extent of marshy meadow. Their stomach is the thinnest amongst birds of the *Scolopax* tribe; and, as I have said before, their food seems to be entirely the larvæ of *Tipulæ*,* or congenerous flies." From Mr. Dann I learn that the Great Snipe breeds in considerable numbers in the mountainous parts of Norway and Sweden, as high as the range of birch woods extend. In the Dofre Fi-el, at Jerkin and Fogstuen, they are numerous on the edges of the grassy swamps, avoiding the wet. They also frequently resort to the borders of the small rills used for irrigating the grass lands. Their nest is placed on a hummock or tuft of grass near the willow bushes on the borders of the swamps. During the pairing-season they fly to a vast height. They make a drumming noise as they descend, which is produced by a slight and peculiar vibration of the wings. Mr. Dann does not consider that the Great Snipe goes to the northward of Drontheim, they leave the more northern parts in August, but are sometimes shot in Sweden, as late as November. Mr. Selby and other observers have remarked that this Snipe utters no cry when flushed. Mr. Hewitson, in his work on the eggs of British Birds, says, the egg of the Great Snipe is another of the rarities for which he was indebted to the perseverance of Mr. Hoy, of whom he obtained the following particulars: "There is no doubt that by far the greater number of the Great Snipe retire to the swamps of the north to breed; still a considerable number are spread over the fens and morasses of Holland, and have hitherto escaped observation during the time of breeding. It may, however, be met with during that season, though not in great numbers, in the marshy districts lying between Gouda and Gorinchem, and an extensive fenny tract, abounding in peat bogs, in the eastern part of Dutch Brabant. There is another locality bordering upon the Dutch side of the river Meuse, over which they are found scattered during the breeding-season. The Great Snipe resembles the Jack Snipe very much in its habits; lying close, and, when disturbed, rarely flying far. It begins to breed early in May. The nest is similar to, and placed in the same situation as, that of the common species. The eggs are four in number." These are of a yellow olive-brown, spotted with two shades of reddish brown; the length one inch nine lines, by one inch and two lines in breadth.

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* *Tipulæ.* Flies, known by the more common name of Father Long-Legs; the species of which are very numerous, and in their larva or caterpillar state are too well known for their extensive destruction of the roots of grass, and the consequent death of the herbage.

I do not find any notice of the occurrence of the Great Snipe in Orkney or Shetland, but it is seen in the Danish Islands in the breeding-season. A few breed in Germany, appearing in May, and departing in September; it is also said to be found in Bohemia. It is not very common in Holland; still more rare in France; and in Switzerland, Italy, Corfu, Sicily, Malta, and Crete, this species, according to Messrs. Necker, Schinz, and Savi, is observed in spring and autumn on its passage. The Zoological Society have received specimens, sent by Messrs. Dickson and Ross, from Trebizond, obtained in the month of April, and said to be common in boggy ground; and

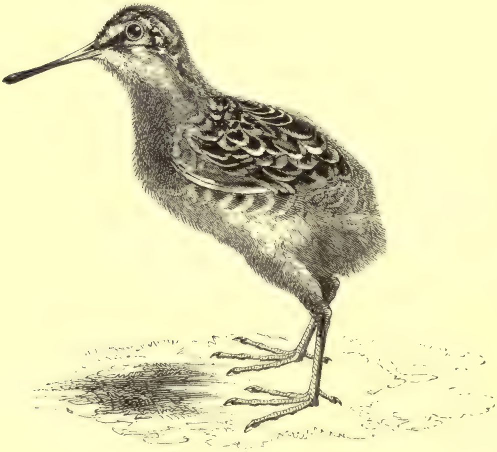
M. Menetries found it in the vicinity of Caucasus, where he says it is a bird of passage.

The beak dark brown at the end, pale yellow brown at the base; irides dark brown; from the base of the beak to the eye, a dark brown streak; over that, over the eye and the ear-coverts, a streak of pale brown; forehead and top of the head rich dark brown, divided along the middle line from before backwards by a pale brown stripe; neck all round pale brown, the centre of each feather darker brown; interscapulars, scapulars, and back, rich brownish black, with central lines and broad margins of rich buff or fawn colour; lesser wing-coverts nearly black, the upper series tipped with pale brown, the lower series tipped with white; great coverts black, tipped with white; primary quill-feathers dull greyish black, with white shafts; secondaries dull black, tipped with white; tertials black, barred and streaked with pale brown; rump very dark brown, edged with pale brown; upper tail-coverts pale yellow brown, varied with dark brown; tail-feathers sixteen, the four on each outside nearly all white, the others rich brownish black over three-fourths of their length from the base, then a patch of chestnut, bounded by a circle of black, and tipped with white; chin pale yellow brown; breast and sides of the body with half-circular bands of brownish black on pale brown; belly and vent pale brownish white; legs and toes greenish brown, the claws black. The legs and toes are subject to some variation in colour: I have seen them in fresh-killed birds of a livid green, and even of a light drab colour.

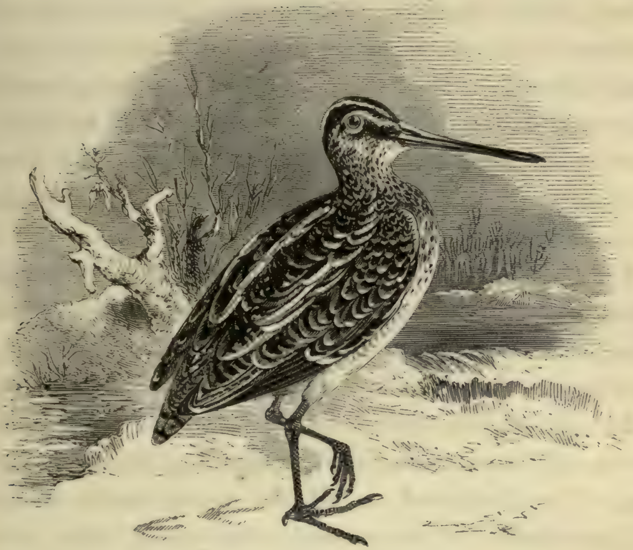
The whole length about twelve inches. From the carpal joint to the end of the first quill-feather, which is the longest in the wing, five inches and a half. The weight from seven to nine ounces, depending on age and sex. The females larger than the males. The Rev. Richard Lubbock mentions having met with one that weighed ten ounces.

The males are lighter in colour above and below the dark stripe behind the base of the beak, like the Woodcock; and the breast is less covered with the dark half-circular markings: the white spots at the ends of the wing-coverts are rather larger, and more conspicuous from their purer white colour. Young birds in their first autumn have short beaks, and fewer, if any, white outside tail-feathers; these are probably obtained at their first moult, as this species is sometimes described as being without any white outer tail-feathers, and at others with as many as five on each outside.

The vignette below represents the young of the Common Snipe.



GRALLATORES. *SCOLOPACIDÆ.*



THE COMMON SNIPE.

Scolopax gallinago.

Scolopax gallinago,	*Common Snipe,*	PENN. Brit. Zool. vol. ii. p. 60.
,, ,,	,, ,,	MONTAGU, Ornith. Dict.
,, ,,	*The* ,,	BEWICK, Brit. Birds, vol. ii. p. 55.
,, ,,	*Common* ,,	FLEM. Brit. An. p. 106.
,, ,,	,, ,,	SELBY, Brit. Ornith. vol. ii. p. 121.
,, ,,	,, ,,	JENYNS, Brit. Vert. p. 205.
,, ,,	,, ,,	GOULD, Birds of Europe, pt. xvi.
,, ,,	*Bécassine ordinaire,*	TEMM. Man. d'Ornith. vol. ii. p. 676.

THE COMMON SNIPE may be truly characterised as indigenous to this country. It is known to breed in small numbers, in most of, if not in all, the counties along the southern line of the English coast; and as this bird is known to go to high northern latitudes for the breeding-season, it is found, as might be expected, producing its eggs and young much more constantly, as well as frequently, in the northern counties of England, in Ireland, in Scotland and its islands, than here with us in the south. Still, the quantity produced in the whole of the British Islands bears but a small proportion to the numbers seen here, so generally dispersed, during winter, which probably visit us during that season from various parts of Scandinavia, and leave us again in March, frequently shifting their ground under the influence of the weather.

The Common Snipe breeds both in Cornwall and Devonshire: I have also received the eggs from Dorsetshire, and from the New Forest in Hampshire. White of Selborne, in that part of his journal published by Mr. Jesse, says, under date of July 30th, "Young Snipes were seen at the Bishop of Winchester's table, at Farnham Castle, on this day. They had bred on all the moory heaths of this neighbourhood." I have bought the young birds, when three parts grown, in the London market. The Rev. Leonard Jenyns, in reference to Cambridgeshire, says, "Many of these birds remain with us the whole year, and breed constantly in Burwell and Swaffham fens;" and under date of June 15th, 1837, "Common Snipe taken in Burwell fen, with two young ones recently hatched." The Rev. Richard Lubbock writes me word from Norfolk, that these birds breed there in considerable numbers, which, however, fluctuate greatly in different years, and are never sufficient to account for the number which sometimes appear in August, in which month as many Snipes may often be killed as at any time of the year. Mr. Selby says, "In addition to our native Snipes, great flights come annually from Norway, and other northern parts of Europe; and in Northumberland they arrive in the greatest numbers in the beginning of November. They seldom remain long in one situation, moving from place to place, under the regulation of various causes ; so that the sportsman, who has enjoyed excellent Snipe-shooting one day, may find the same spots entirely deserted on the following. Towards the end of March, or beginning of April, Snipes, having nearly perfected their summer or nuptial plumage, select appropriate places for nidification, and the male bird commences his calls of invitation for a mate. These are always uttered upon the wing, and consist of a piping or clicking note, often repeated, and accompanied at intervals by a humming or bleating noise, not unlike that of a goat,* apparently produced by a peculiar action of the wings, as the bird, whenever this sound is emitted, is observed to descend with great velocity, and with a trembling motion of the pinions. At this season it soars to an immense height, remaining long upon the wing ; and its notes may frequently be heard when the bird itself is far beyond the reach of sight. These flights are performed at intervals during the day, but more commonly towards the evening, and are continued during the whole time that the female is engaged in incubation." Mr. Selby, who was in Sutherlandshire in the summer of 1834, observed that the Common Snipe was very abundant there in all the moory and marshy tracts.

Sir Humphrey Davy says, " In the heather surrounding a small lake in the island of Hoy, in the Orkneys, I found, in the month of August in 1817, the nests of ten or twelve couple of Snipes. I was grouse-shooting, and my dog continually pointed them ; and, as there were sometimes three young ones and two old in the nest, the scent was very powerful. From accident of the season, these Snipes were very late in being hatched, for they usually fly before the middle of July; but this year, even as late as the 15th of August, there were many young Snipes that had not yet their wing-feathers. The nest is very inartificial, the eggs large, and the young ones soon become of an enormous size, being often, before they can fly, larger than their parents. Two young ones are usually the number in a nest, but I have seen three. The old birds are exceedingly attached to their offspring; and, if any one approach near the nest they make a loud and drumming noise above the head, as if to divert the attention of the intruder."

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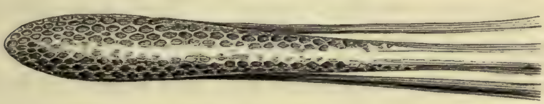
* In France, one of the names by which the Common Snipe is known, is that of " Chèvre volant."

Mr. Salmon, who, with his brother, passed three weeks in the Orkneys in the summer of 1831, observes, "We found the Snipe in abundance in every island wherever there was the least moisture; and their nests, in general, were placed among the long grass, by the side of the small lochs, and amid the long heather that grows upon the sides of the hills." Mr. Hewitson met with several nests upon Foula, the most westerly of the Shetland Islands, among the dry heath on the side of a steep hill, and at an elevation of not less than from 500 to 1000 feet above the marshy plain.

Before tracing the Snipe into other countries, I may notice that the nest is very slight, consisting only of a few bits of dead grass, or dry herbage, collected in a depression on the ground, and sometimes upon, or under the side of a tuft of grass or bunch of rushes. The eggs, four in number, of a pale yellowish or greenish white, the larger end spotted with two or three shades of brown; these markings are rather elongated, and disposed somewhat obliquely in reference to the long axis of the egg; the length of the egg about one inch six lines, by one inch one line in breadth. The feeding ground of the Snipe is by the sides of land springs, or in water meadows; and in low flat countries they are frequently found among wet turnips. A writer in the Magazine of Natural History, describing their mode of feeding, as observed by himself with a powerful telescope, says, "I distinctly saw them pushing their bills into the thin mud, by repeated thrusts, quite up to the base, drawing them back with great quickness, and every now and then shifting their ground a little." The holes made with their bills, when thus searching for food, are easily traced. In my own communication on the subject of Snipes, published in Mr. Loudon's third volume, I described a peculiarity in the beak of all the species of the genus *Scolopax.* The end of the beak of a Snipe, when the bird is alive, or if recently killed, is smooth, soft, and pulpy, indicating great sensibility; but some time afterwards it becomes dimpled like the end of a thimble. If the upper mandible be macerated in water for a few days, the skin, or cuticle, may be readily peeled off; and the bones thus laid bare exhibit an appearance, of which the engraving here introduced is a magnified representation.



The external surface presents numerous elongated, hexagonal cells, which afford at the same time protection, and space for the expansion, of minute portions of nerves supplied to them by two branches of the fifth pair; and the end of the bill becomes, in consequence of this provision, a delicate organ of touch, to assist these birds when boring for their food in soft ground; this enlarged extremity of the beak, which it will be recollected is a generic distinction, possessing such a degree of sensibility as to enable these birds to detect their prey the instant it comes in contact with it, although placed beyond the reach of sight. The food of the Snipe consists of worms, insects, small shells with their animal inhabitants, and minute seeds; these last, perhaps, not picked up designedly, but swallowed probably while adhering to the glutinous surface of their more usual animal food. A Snipe that had been slightly wounded in the pinion, which was kept in confinement for some time by Mr. Blyth, would eat nothing but earth-worms. When the feeding ground of the Snipes becomes limited by the effects of frost and snow, the birds suffer greatly, and soon become very thin. Many go still farther south.

Muller includes our Snipe among the birds of Denmark. M. Nilsson says it is common in Sweden, where, however, it is a migratory bird, appearing in March, and departing soon after the end of the breeding-season. So numerous are these birds in the marshes in the vicinity of Gothenburgh, that Mr. Lloyd, in his Field Sports of the North of Europe, mentions having "bagged upwards of thirty couple of Snipes in seven or eight hours." These were either the Common, or the Double Snipe, *Scolopax major*, as he was careless of wasting his powder and shot about the Jack, or Half Snipe. Linnæus, in the Journal of his Tour in Lapland, says, under date of the 14th of May, 1732, when near Gefle, in the marshes, the note of the Snipe was heard continually. Mr. Dann tells me the Common Snipe is far more widely dispersed than the Great Snipe. It breeds in extensive morasses and swamps in the mountainous districts of Norway and Sweden, as well as in the small mosses and bogs in the cultivated districts. From Scona to Lapland, both eastern and western, it is widely distributed. The eggs are generally three or four, and the nest is placed on a hummocky tuft of grass in the morass. They migrate south in the middle of August, from the northern parts, although they linger in the south of Sweden until October. This bird goes in summer as far north as the Faroe Islands, Iceland, and Greenland. Pennant, in his Arctic Zoology, says, it is found in all parts of Russia and Siberia. It breeds in Germany, Holland, and France. It is found also in Spain, Provence, Switzerland, and Italy. It is common at Corfu, Sicily, and Crete in winter, and is observed as a bird of passage at Malta in September and February. Sir Humphrey Davy mentions, that the Common Snipe breeds in great quantities in the extensive marshes of Hungary and Illyria. In 1828, in the drains about Laybach, in Illyria, these birds were seen in the middle of July. Mr. Strickland observes, that it is abundant in the marshes about Smyrna in winter, and it is said to go to Lower Egypt.

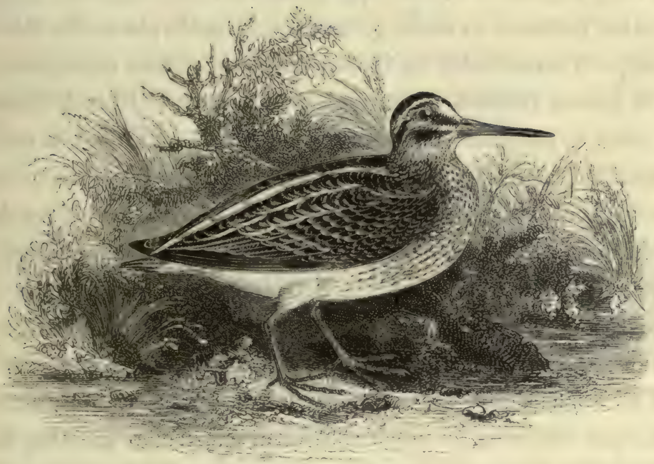
In winter the beak is dark brown at the end, pale reddish brown at the base; the irides dark brown; from the base of the beak to the eye a dark brown streak; over the streak, over the eye and the ear-coverts, a streak of pale brown; all the upper part of the head very dark brown, divided along the centre by a single pale brown streak; back, dark brown, slightly spotted with pale brown; interscapulars, and scapulars dark brown in the centre, with broad external, lateral margins of rich buff, forming four conspicuous lines along the upper surface of the body; wing-coverts spotted with pale brown, on a ground of dull black, and tipped with white; tertials barred with pale brown, on a black ground; the primaries dull black, secondaries the same, but tipped with white; upper tail-coverts barred, alternately, with pale brown, and dusky black; tail-feathers fourteen, basal half dull black, varied on the margins with pale reddish brown, on the distal half of the feather an oval patch of pale chestnut, bounded by a dusky brown band, and tipped with paler chestnut. The chin, brownish white; cheeks pale brown, ear-coverts darker; sides, and front of the neck, pale brown, spotted with darker brown; breast, belly, and vent, white; sides, and flanks, greyish white, barred with dusky black; under tail-coverts, pale yellow brown, barred with greyish black; legs and toes greenish brown.

A Snipe shot by myself in the first week in August, an old bird in summer plumage, but with the autumn moult just commencing, has the outer lateral margin of the inter-scapular, and scapular feathers narrow, and almost white; all the parts of the plumage, on the back and wings, which are pale yellow brown in winter, are in this bird of a rich reddish brown; the first new inter-scapular feather on each side has just appeared, with its usual broad, buff-coloured margin, affording a striking contrast to the narrower white margins of the feathers lower down on the body.

The whole length of a Common Snipe is about ten inches and a half; the length of the beak about two inches and three-quarters; from the carpal joint to the end of the first quill-feather, which is the longest in the wing, five inches; the sexes are alike in plumage, but the female exceeds the male in size.

A young bird about two-thirds grown, with the beak only one inch long, and with down still adhering about the head, has the narrow, light-coloured margins, and the rich red brown on the feathers of the upper surface of the body, and wings, as in the old bird in summer.

GRALLATORES. *SCOLOPACIDÆ.*



THE JACK SNIPE.

Scolopax gallinula.

Scolopax gallinula,	*Jack Snipe,*	Penn. Brit. Zool. vol. ii. p. 63.
„ „	„ „	Montagu, Ornith. Dict.
„ „	*The Judcock,*	Bewick, Brit Birds, vol. ii. p. 59.
„ „	*Jack Snipe,*	Flem. Brit. An. p. 106.
„ „	„ „	Selby, Brit. Ornith. vol. ii. p. 125.
„ „	„ „	Jenyns, Brit. Vert. p. 206.
„ „	„ „	Gould, Birds of Europe, pt. xvi.
„ „	*Bécassine sourde,*	Temm. Man. d'Ornith. vol. ii. p. 678.

Though allied to the Snipes in its haunts and general habits, the Jack Snipe is still distinguished by various peculiarities. It is more decidely a winter visiter only, the instances of its remaining through the summer in this country being very rare. It is more solitary than the Common Snipe, though sometimes found in pairs, but these seldom get up together, or go far before they settle again ; and although it feeds on bare, boggy ground, yet when not searching for food it chooses sheltered situations among strong rushes, or coarse long grass, and the luxuriant vegetation common to moist grounds. In such places the Jack Snipe is remarkable for its sluggishness, seldom taking wing till almost trodden upon, which has induced French Naturalists to call this species *Bécassine sourde*, as though it were deaf to the approach of an enemy, and instances have occurred in which a Jack Snipe has allowed itself to be picked up by hand before the nose of a pointer. Though generally dispersed over the British Islands in winter, it is considered to be less numerous as a species than the Common Snipe, and does not, when flushed, utter any note. The Jack Snipe appears to have particular attachment to certain localities, so much so, that a sportsman shooting for years in succession over the same ground, knows exactly where to look for any Jack Snipe that is in his country. Thus Mr. Selby, who is a good sportsman as well as an accomplished naturalist, says of this species, in reference to his own locality in Northumberland, " the first flights generally arrive here as early as the second week of September, as I have seldom failed to meet with it in a favourite haunt between the 14th and 20th of that month," and I receive similar accounts from other country friends with whose communications in ornithology I am favoured.

This bird is to be seen in the London poulterers' shops as late as the first week in April in every year, and the plumage then exhibits all the bloom and brilliancy of the approaching nuptial period, but I have never seen a bird that was killed in summer, or a British example of the egg. Mr. Paget, in his sketch of the Natural History of Yarmouth and its neighbourhood, says, " Mr. C. Girdlestone offered a sovereign to any one who would bring him a specimen of this bird shot in summer. In 1822 he had one brought to him in June; and in the same month, in 1824, he himself saw a pair on Bradwell common: about two years after another specimen was shot. As, perhaps, no one in the kingdom was ever more practically acquainted with these birds, his authority may be considered indubitable. Mr. Miller says he has had Jack Snipe's eggs brought to him: they were smaller, and of a more elliptical shape than those of the Common Snipe, which they otherwise exactly resembled." The Rev. Richard Lubbock wrote me word that the Jack Snipe referred to by Mr. Paget, as produced by Mr. Girdlestone's offered reward, is now in his possession. Mr. Lubbock says, "my lamented friend, Girdlestone, sent it to me after it was set up. I got from the man who shot it a full account of the particulars. He observed that after the Snipes departed in April, one Jack Snipe had still established his residence on the corner of a small swamp, not three hundred yards from the fenman's house. Stimulated by Mr. Girdlestone's reward, he went often to look for it, taking care not to disturb it much, but only to ascertain that it still remained. The middle of May came, and sun and dry weather contracted the limits of the Snipe's territory; still it maintained its post, but grew more and more sluggish as the season advanced, insomuch that when flushed it did not fly more than twenty or thirty yards. When June arrived, Hewitt, the fenman, was of course quick in taking measures to secure the sovereign. On the 2nd of June he loaded his gun and went in search of the Snipe; it did not fly far enough to allow him to level without the danger of cutting it to pieces, and appeared still more feeble than formerly. He laid down his gun, took his hat off, and after flushing it two or three times, knocked it down as boys do butterflies. It was not very lean, but still in poor condition, the plumage ragged and the skin scurfy. Close examination did not give any cause for supposing it to have been a wounded bird; indeed, in that case, it would rather have got stronger than weaker, as time rolled on. I was with Mr. Girdlestone when we found the pair of Jack Snipes upon Bradwell common, which Mr. Paget mentions, but by my note the time was May, and on the 8th of May we searched closely again for them, but they had departed. On the first of August 1833, a Jack Snipe was shot on Barton fen, in my presence, a perfectly healthy, good-conditioned, well plumaged bird. The man who shot it told me that once, and only once, he had shot a Jack Snipe in summer upon the same fen. He lives upon the broads and marshes, and would doubtless have detected any, as he is quite alive to the rarity of their appearance. The eggs which have once or twice been offered to me as those of the Jack Snipe, were those of the Purre, and I regret that I can say nothing in favour of its breeding in Norfolk. I think that some worm, or particular aliment must be wanting here in summer, and that short diet made Mr. Girdlestone's Jack Snipe so feeble and unhealthy. The one shot on the first of August might be a migratory bird."

Some years ago, I was told by several residents in Yorkshire, that a Jack Snipe's nest with four eggs had been taken in that county, and was in the possession of Colonel Dalton. Mr. Selby says, when in Sutherlandshire "the gamekeeper of the Tongue district assured us that the Jack Snipe breeds there almost every year. Sir W. Jardine accompanied him to a spot where he had frequently seen them in summer, but he was not so fortunate as to meet with any." I am not aware that the eggs of this bird have ever been obtained either in Orkney or Shetland. Sir Humphrey Davy says, "I was informed at Copenhagen, that the Jack Snipe certainly breeds in Zealand, and I saw a nest with its eggs, said to be from the island of Sandholm, opposite Copenhagen; and I have no doubt that this bird sometimes makes its nest in the marshes of Holstein and Hanover. The Jack Snipe feeds upon smaller insects than the Common Snipe: small white larvæ, such as are found in black bogs, are its favourite food, but I have generally found seeds in its stomach, once hempseeds, and always gravel."

I saw eggs of the Jack Snipe in the Museum at Paris, of one of which I have an exact drawing. The egg is of a yellowish olive, the larger end spotted with two shades of brown; the length of the egg one inch three lines by ten lines in breadth. Mr. Dann says the Jack Snipe is far less numerous in Scandinavia than either of the two preceding species, but frequents the same localities. It however migrates south considerably later; he has met with them on the Dofre Fi-ell as late as the end of September, after a frost of some days' duration with deep snow, and has seen them at Lulea, on the Bothnian Gulph, in October. They are not unfrequently to be met with as late as November and December, in Sweden. M. Temminck, in the fourth part of his Manual, mentions that this bird breeds in considerable numbers in the environs of St. Petersburgh; and Pennant says it visits Siberia. Mr. Hoy is said to have found the nests and eggs of the Jack Snipe at Falconswaerd, in North Brabant. It is a winter visiter only to France, Provence, and Italy. It is found in Sicily during winter, and at Malta in March and October. Mr. Strickland mentions that it is abundant at Smyrna in the same season; the Russian Naturalists found it in the vicinity of the Caucasus. Colonel Sykes includes it in his Birds of the Dukhun, and Mr. Blyth has obtained it in the vicinity of Calcutta.

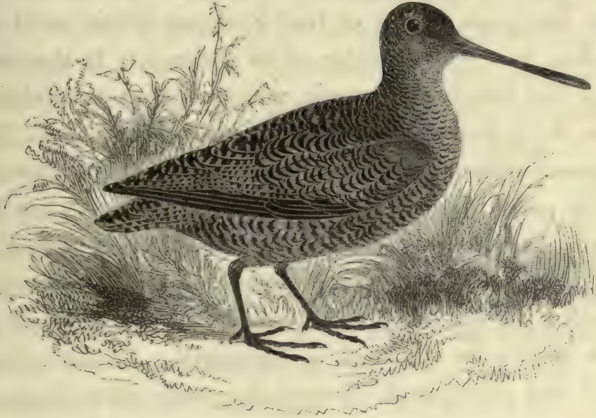
The beak is dark brown at the point, pale reddish brown at the base; irides dark brown; from the beak to the eye a dark brown streak; over that, over the eye and over the ear-coverts a broad pale brown streak, with a narrow darker one along the middle line of the posterior part; forehead and top of the head rich dark brown, not divided along the middle by a pale brown streak, as in the Great Snipe and Common Snipe; back of the neck greyish brown, varied with dusky brown; back rich dark brown; interscapulars and scapulars nearly black, tipped with reddish brown, both sets having broad external lateral margins of rich buffy yellow: wing-coverts dusky black, edged with pale brown; primary quill-feathers dusky black, secondaries the same, but ending in a white point; tertials brownish black, spotted and streaked with rich reddish brown; upper tail-coverts brown, edged with buff; tail-feathers twelve, greyish black; cheeks, chin, and neck, greyish brown, spotted with darker brown; breast, belly, and vent white; legs and toes dark greenish brown; claws black.

The whole length eight inches to eight inches and a half. The length of the beak one inch and a half; from the carpal joint to the end of the first quill-feather, which is the longest, four inches and three-eighths.

Females are larger in size than the males, but not so bright in their colours. In the plumage of winter the reddish brown parts are more inclined to ash grey.

Young birds have not the brilliant green and purple reflections observable in old birds.

GRALLATORES. *SCOLOPACIDÆ.*



SABINE'S SNIPE.

Scolopax Sabini.

Scolopax Sabini,	*Sabine's Snipe,*	Bewick, Brit. Birds, vol. ii. p. 53.
„ „	„ „	Flem. Brit. An. p. 105.
„ „	„ „	Selby, Brit. Ornith. vol ii. p. 118.
„ „	„ „	Jenyns, Brit. Vert. p. 204.
„ „	„ „	Eyton, Rare Brit. Birds, p. 100.
„ „	„ „	Gould, Birds of Europe, pt. xvi.
„ „	*Bécassine Sabine,*	Temm. Man. d'Ornith. vol. iv. p. 432.

This Snipe was first made known by the late N. A. Vigors, Esq., in the fourteenth volume of the Transactions of the Linnean Society, and it is due to that eminent Ornithologist to introduce it here in his own words.

"This species is at once distinguished from every other European species of Scolopax, by the total absence of white from its plumage, or of any of those lighter tints of ferruginous yellow, which extend more or less in stripes along the head and back of them all. In this respect it exhibits a strong resemblance to the *Scolopax saturata* of Dr. Horsfield, from which, however, it sufficiently differs in its general proportions; and I find no description of any other extra European species of true Scolopax which at all approaches it in this character of its plumage. In the number of the tail-feathers again, which amount to twelve, it differs from *Scolopax major*, which has sixteen, and from *Scolopax gallinago*, which has fourteen: it agrees however in this point with *Scolopax gallinula*, which also has but twelve; but it never can be confounded with that bird, from the great disproportion between the essential characters of both; the bill alone of *S. Sabini* exceeding that of the latter species by one third of its length. In the relative length and strength of the *tarsi*, it equally differs from all. These members, although stouter than those of *S. gallinago*, fall short of them by $\frac{3}{20}$ of an inch: they are much weaker, on the other hand than those of *S. major*, although they nearly equal them in length. In general appearance it bears a greater resemblance to *S. rusticola*, than to the other European *Scolopaces*, but it may immediately be recognised as belonging to a different station in the genus; the two exterior toes being united at the base for a short distance, as in the greater number of the congeneric species; while those of *S. rusticola* are divided to the origin."

"This bird was shot in the Queen's County in Ireland, by the Rev. Charles Doyne, of Portarlington, in that county, on the 21st of August 1822; and was obligingly communicated to me the same day. I have named the species in honour of the Chairman of the Zoological Club of the Linnean Society, whose zeal and ability have thrown so much light upon the ornithology of the British Islands."

Mr. Vigors adds in a note, "Since this communication was read to the Society, I have been enabled to record a second instance of this bird having been met with in the British Islands. On the 26th of October 1824, a female of this species was shot on the banks of the Medway, near Rochester, and is preserved in the valuable collection of Mr. Dunning, of Maidstone. The specimen was kindly communicated to me by that gentleman, and was exhibited to the Zoological Club on the 23rd of November 1824. It accords in every particular with the specimen first obtained, with the exception of being somewhat smaller. This difference of size most probably indicates the difference of sex." This example passed recently into the possession of Mr. Gould. A third specimen was afterwards exhibited at one of the evening meetings of the Zoological Society in London, by Mr. W. Thompson of Belfast. "This bird was shot by Captain Bonham of the 10th Hussars, at the end of November or beginning of December, 1827, near Garvagh, in the county of Londonderry, being the second individual killed in Ireland. In a letter to a mutual friend, Captain Bonham remarks of this bird, that it sprung from the side of a high heathery hill, from which common snipes were at the same time raised, but that it did not call as they do. His want of success in obtaining it before the third shot, afforded Captain Bonham an opportunity of remarking its disregard for his presence, which was manifested by its alighting quite near again, after being fired at, in the manner of the Jack Snipe."

Mr. Selby has since recorded a fourth example, which was received by him from Morpeth, possessing all the characteristics of Mr. Vigors's bird: the under parts were perhaps a little darker, having fewer bars or undulations of the lighter tint.

In 1836, Mr. Eyton, in his Rare British Birds, says, he was informed by the Earl of Malmesbury that a Snipe of this species had been killed by his son, in the breeding-season, near Heron Court in Hampshire.

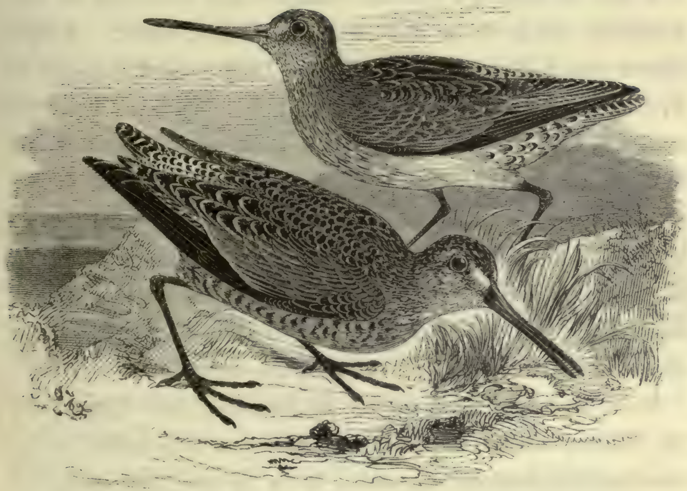
From an article in the eighth volume of Mr. Loudon's Magazine of Natural History, there is reason to believe that another example of this rare Snipe has occurred in Lancashire; but, singular as it may appear, this species does not seem even yet to have fallen into the hands of any Naturalist out of the British Islands, and all that is known of the bird, or its habits, is contained in the notices here cited.

On the 5th of March of the present year, 1845, another specimen was shot on Appledram common, about two miles south of Chichester. A. E. Knox, Esq., of New Grove, near Petworth, obtained this bird for his own collection, and sent me notice of the occurrence.

The beak is dark brown at the point, paler reddish brown at the base; irides dark brown; upper part of the head, the back of the neck, back, scapulars, wing-coverts and tertials, dusky brown, each feather varied by narrow transverse bands of pale yellow brown, which are less numerous on the back than over the wings; primary quill-feathers dull black, with black shafts; upper tail-coverts greyish brown; tail-feathers with the basal half black, the terminal half chestnut brown, spotted and barred with black; the two centre feathers have rather more, and the outer feathers rather less of black than the others; chin, neck, breast, and all the under parts of the body, a mixture of dull brown and pale yellow brown, in alternate narrow bars over the whole surface; legs and toes very dark chestnut brown, claws black.

The whole length about eleven inches; the beak two inches five-eighths, or three-quarters; from the carpal joint to the end of the first quill-feather, which is the longest in the wing, five inches.

GRALLATORES. *SCOLOPACIDÆ.*



THE BROWN SNIPE.

Macrorhamphus griseus.

Scolopax grisea,	*Brown Snipe,*	PENN. Brit. Zool. vol. ii. p. 65.
„ „	„ „	MONTAGU, Ornith. Dict.
„ „	„ „	FLEM. Brit. An. p. 106.
Macrorhamphus griseus,	„ *Longbeak,*	SELBY, Brit. Ornith. vol. ii. p. 103.
Scolopax grisea,	„ *Snipe,*	JENYNS, Brit. Vert. p. 205.
Macrorhamphus griseus,	*Red breasted Snipe,*	EYTON, Rare Brit. Birds, p. 36.
„ „	*Grey Snipe,*	GOULD, Birds of Europe, pt. iii.
Scolopax grisea,	*Bécassine ponctuée,*	TEMM. Man. d'Ornith. vol. ii. p. 679.

MACRORHAMPHUS. *Generic Characters.*—Beak long, straight, rounded, rather slender in the middle, the tip dilated, slightly incurved and rugose. Nostrils lateral, basal. Legs with four toes, the outer toes connected at their base by a membrane; hinder toe touching the ground only at the tip; lower part of the tibia naked. Wings long and pointed.

THE BROWN SNIPE was first made known as a British Bird by Col. Montagu, who described it in his Ornithological Dictionary, and gave a figure of it in its winter plumage in his Supplement. This example, which was killed in Devonshire in the month of October, is preserved in the British Museum. According to Dr. Edward Moore, and Mr. Bellamy, a second example has occurred in Devonshire, which is in the collection of Mr. Drew. A specimen was killed near Carlisle in 1835, which belongs to T. C. Heysham, Esq. and which I have seen. A fourth example was killed at Yarmouth in the autumn of 1836, and is now in the possession of the Rev. Leonard Rudd, residing in Yorkshire, who did me the favour to bring his bird to London that I might see it. My kind friend, J. H. Gurney, Esq. of Norwich, has two British killed specimens of this bird in his collection, one of which was obtained in Norfolk so recently as the year 1840.

This bird has been killed in Sweden, and figured by M. Nilsson under the name of *Scolopax Paykullii* in his *Ornithologia Suecica*, supposing it to be new, but corrected his oversight in his Fauna Scandinavia; it has also lately been included among the Birds of Greenland, by Professor John Reinhardt of Copenhagen, in a paper published in the Transactions of the Royal Society of Denmark.

This bird is very common in the United States of America, and is described by the American Naturalists, Wilson, Audubon, and Nuttall, in their respective histories of the birds of that country. It was generally considered to be a true Snipe, but the bill is intermediate in its length between that of the true Snipes and the Sandpipers, and some other peculiarities, in which it also differs from both, as close examination will show, induced Dr. Leach to propose for it a generic distinction, under the term *Macrorhamphus*, by which it is now pretty generally known. Mr. Aububon, in his account of this species, says, that the Creoles of Louisiana call it *Bécassine de mer*, an appropriate name for the bird, since the beak is in structure, that of a Snipe; while the habits, and great seasonal change of plumage, are those of the marine Sandpipers. The English names given to this bird are not so happily chosen, being of more partial application. It has been called, as the synonyms indicate, Red-breasted Snipe, Brown Snipe, and Grey Snipe; but the bird is only red during summer, brown in the autumn, and grey in winter.

The Red-breasted Snipe, as it is called by Wilson on account of the prevailing colour of its summer plumage, "arrives on the sea-coast of New Jersey early in April; it is seldom or never seen inland; early in May it proceeds to the north to breed, and returns by the latter part of July or beginning of August. During its stay, it flies in flocks, sometimes very high, and has then a loud and shrill whistle, making many evolutions over the marshes; forming, dividing, and reuniting. They sometimes settle in such numbers, and so close together, that eighty-five have been shot at one discharge of a musket. They frequent the sand-bars, and mud-flats at low water in search of food; and being less suspicious of a boat than of a person on shore, are easily approached by this medium, and shot down in great numbers."

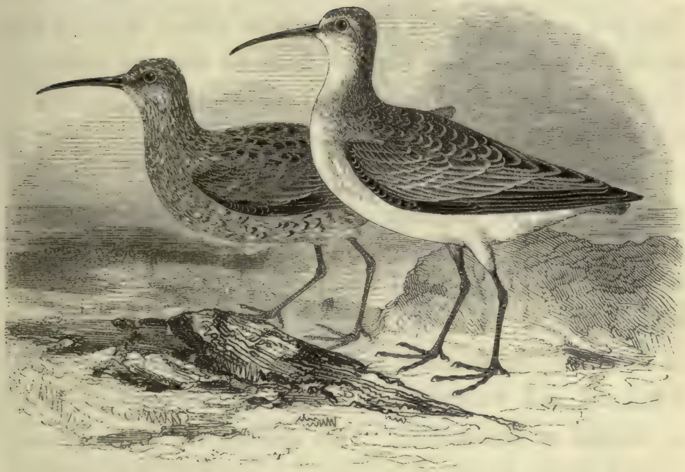
These birds, Wilson observes, "of all our sea-side Snipes, are the most numerous, and the most delicious for the table. They doubtless breed not far to the northward of the United States, if we may judge from the lateness of the season when they leave us in spring, the large size of the eggs in the ovaries of the females before they depart, and the short period of time they are absent." This hiatus in their history has been supplied by Dr. Richardson in his Fauna of North America, who says, "they are well known in the fur-countries, and have an extensive breeding range from the borders of Lake Superior to the Arctic Sea."

In the summer or breeding plumage, the beak is reddish brown, darker at the point than at the base; the irides reddish hazel; cheeks, top of the head, and back of the neck, pale chestnut brown, streaked with black; upper part of the back, the scapulars and tertials, nearly black, edged and streaked with bright yellowish chestnut; wing-coverts and quill-feathers dusky ash brown; the lower part of the back white; upper tail-coverts white, spotted with black; tail-feathers barred alternately with black and white, of which the black bars are broader than the white bars; sides and front of the neck, the breast and belly, reddish chestnut, spotted and barred with black; sides, flanks, vent, and under tail-coverts white, tinged with red and spotted with black; legs and toes greenish brown, the claws black.

From this state, these birds pass, during autumn, through various shades of dark brown and ash brown, to the ash grey plumage of winter; when the cheeks, head, and neck, are ash brown, varied with darker brown; scapulars, wing-coverts, and tertials, dusky ash brown, margined with greyish buffy white; the lower part of the back, upper tail-coverts, wing, quill, and tail-feathers as in summer; breast and belly nearly white; flanks and under tail-coverts dull white, spotted with black.

The whole length of the bird is from ten to eleven inches, depending on age and sex; the beak also varies in length from two inches to two and a half inches; from the carpal joint to the end of the first quill-feather, which is the longest in the wing, five inches and five eighths.

Along the middle line of the upper mandible inside, there is a row of minute horny points directed backwards; the food in this country was said to be worms, and small marine bivalve mollusca.



THE CURLEW SANDPIPER.

Tringa subarquata.

Numenius pygmæus,	*Pigmy Curlew,*	Penn. Brit. Zool. vol. ii. p. 38.
Scolopax ,,	,, ,,	Montagu, Ornith. Dict.
,, ,,	,, ,,	Bewick, Brit. Birds, vol. ii. p. 42.
Tringa subarquata	,, ,,	Flem. Brit. An. p. 107.
,, ,,	*Curlew Tringa,*	Selby, Brit. Ornith. vol. ii. p. 157.
,, ,,	*Pigmy Curlew,*	Jenyns, Brit. Vert. p. 208.
,, ,,	,, ,,	Gould, Birds of Europe, pt. vi.
,, ,,	*Bécasseau cocorli,*	Temm. Man. d'Ornith. vol. ii. p. 609.

Tringa. *Generic Characters.*—Beak of moderate length, about as long as the head, sometimes slightly curved, rather flexible, compressed at the base, depressed, dilated, and blunt towards the point, both mandibles grooved along the sides. Nostrils lateral, pierced in the membrane lining the groove. Legs slender, lower part of tibia naked; three toes before, one behind, those in front entirely divided to their origin, the hind toe articulated upon the tarsus. Wings of moderate size, pointed, the first feather always the longest.

The species last described leads, by an easy gradation, to the true Sandpipers or marine Snipes, most of which, as their name implies, frequent and obtain their living on the sandy shores of the sea. These birds generally go in flocks, sometimes including a considerable number; and they are remarkable for the change of colour, more or less decided, forming their nuptial dress, or summer plumage, produced by a partial moult, and also by the assumption of colour, similar to that of the new feathers, in some parts of those feathers which are not changed, the birds regaining the colour of the plumage of winter by the general moult which takes place in autumn.

One of the earliest notices of the Curlew Sandpiper, or Pigmy Curlew, as a British bird, occurs in Boy's History of Sandwich, in reference to a specimen shot in that neighbourhood, and Pennant refers to a second example killed in August, at Greenwich. This species was formerly considered to be a rare visiter to this country, but probably remained in some instances undistinguished, when in its winter plumage, from the Dunlin at the same season; the beak, however, is longer, rather more slender, as well as more curved; the legs longer and thinner, and the bare part above the joint of greater extent: there is also a constant and marked difference on the rump and in the upper tail-coverts, which in this bird are invariably white, but in the Dunlin the feathers along the central line of the rump and upper tail-coverts are of the same colour as those of the back. In their decided summer plumage, and in the various consequent vernal and autumnal changes in both, the differences are very obvious, the present bird changing to red underneath, and the Dunlin to black, as the illustrations here inserted exhibit.

There is reason to believe that a few pairs of this species occasionally breed in this country. Mr. Gould shot a pair not far from Sandwich in the perfection of their summer plumage, during the last week of May 1833. I have obtained this bird in June in the height of its summer plumage from Norfolk, and have seen the young from the same locality early in July. Mr. Heysham of Carlisle has also recorded the occurrence of a very beautiful male in nearly complete summer plumage, which was met with on Rock Cliff salt-marsh on the 27th of May 1833: the stomach contained the remains of shrimps and sandhoppers. In the autumn of 1834 a considerable flock frequented the same locality: the specimens killed were young birds of the year.

During autumn these birds in small flocks are not uncommon in various localities. Mr. Thompson says this species is a regular summer visitant to Ireland. It is seen about the same period in Cornwall, Devonshire, and Hampshire. More than twenty were exposed for sale on the same day in Leadenhall market in London, in September 1837. It occurs also during autumn in small flocks in Kent, Norfolk, Durham, and Northumberland. Sir William Jardine has met with it in Dumfries-shire, and it has been seen in small parties on the shores and rocks of Scotland.

According to M. Nilsson this species visits Sweden, remaining there from spring to autumn, frequenting the eastern part of Scandinavia, but has not been met with by Mr. Dann in the western parts. The Red Sandpiper of Pennant's Arctic Zoology is this species in its summer plumage, which is there stated to visit the shores of the Caspian Sea, Lake Baikal, and especially the mouth of the Don.

M. Temminck says this bird breeds occasionally in Holland, and that the eggs are yellowish white, spotted with dark brown; but the birds are chiefly seen on their passage in the more southern parts of the European Continent, some of them remaining in Sardinia during winter, going northward in May. The Zoological Society have received specimens from Tangiers, where, however, they are said to be rare. It inhabits other parts of North Africa, going as far south as Senegal and even to the Cape. It is found at Corfu and is very numerous in Sicily from October to April, and is seen at Malta on its passage in spring and autumn. The Zoological Society have also received examples of this bird sent by Messrs. Dickson and Ross from Erzeroom, and M. Temminck says that it inhabits the Islands of the Indian Archipelago.

Mr. Blyth has obtained it in India.

This species breeds in high northern latitudes in North America; and according to Mr. Audubon goes as far south as Florida in winter. They feed on insects, small crustacea, and worms, which they obtain by probing in the soft sand at the edge of the water.

The Curlew Sandpiper in its summer plumage has the beak nearly black; the irides brown; the head and neck all round reddish chestnut, slightly varied with small streaks of black and white; the back, scapulars, small wing-coverts and tertials nearly black, each feather edged with reddish chestnut; the greater wing-coverts ash brown edged with greyish white; primary and secondary quill-feathers nearly black with white shafts; rump and upper tail-coverts white with a few dark spots; tail-feathers ash colour with white shafts; breast and belly reddish chestnut indistinctly barred transversely with lines of black; axillary plume white; vent, flanks, and under tail-coverts, reddish white, barred and spotted with black; under surface of tail-feathers greyish white; legs and toes greenish black. The whole length about eight inches and a quarter; the females rather larger than males: the wing from the carpal joint to the end of the first feather, which is the longest, five inches.

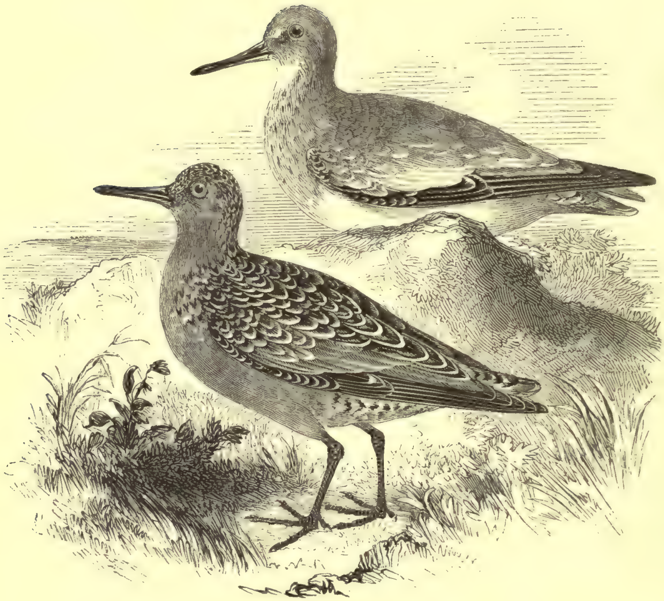
In autumn the under surface of the body of an adult bird is a mixture of white and pale red in patches, and the dark feathers on the back and wing-coverts are mixed with some new feathers which are ash grey; the quill-feathers dusky.

Young birds of the year in their first autumn have the neck ash grey; the feathers of the back, scapulars, wing-coverts and tertials dark brown, margined with reddish buff colour, which, later in the season as winter approaches, change slowly to ash colour, with buffy white, and ultimately with pure white edges; under surface of the body white tinged with red, becoming afterwards pure white.

Adult birds in their winter plumage have the beak brownish black; irides dark brown; lore and ear-coverts ash brown, bounded above with a streak of white; the cheeks also white; top of the head and back of the neck ash brown, streaked and spotted with darker brown; back, scapulars, wing-coverts and tertials ash brown, margined with white; primary quill-feathers dusky black with white shafts; secondaries ash brown edged with white; rump and upper tail-coverts white; tail-feathers ash grey, edged with white; chin, breast, and all the under surface of the body pure white; axillary plume pure white; legs and toes greenish brown, the claws black.

Average length of the beak one inch and a half; of the leg with the bare part above the joint one inch and three quarters. In the adult Dunlin the relative length of the same parts are, beak, one inch and a quarter; leg, one inch and three eighths, but the white rump and upper tail-coverts distinguish the Curlew Sandpiper from the Dunlin at all ages and seasons.

GRALLATORES. *SCOLOPACIDÆ.*



THE KNOT.

Tringa canutus.

Tringa islandica,	*Red Sandpiper,*	PENN. Brit. Zool. vol. ii. p. 89.
„ *cinerea,*	*Ash-coloured* „	„ „ „ 78.
„ *canutus,*	*The Knot,*	„ „ „ 76.
„ „	„ „	MONTAGU, Ornith. Dict.
„ *islandica,*	*Red Sandpiper,*	BEWICK, Brit. Birds, vol. ii. p. 96.
„ „	*Ash-coloured* „	„ „ „ 97.
„ *canutus,*	*The Knot,*	FLEM. Brit. An. p. 109.
„ „	„ „	SELBY, Brit. Ornith. vol. ii. p. 138.
„ „	„ „	JENYNS, Brit. Vert. p. 213.
Calidris „	„ „	GOULD, Birds of Europe, pt. xi.
Tringa cinerea,	*Bécasseau canut,*	TEMM. Man. d'Ornith. vol. ii. p. 627.

THE KNOT is by no means an uncommon bird in this country from autumn through the winter to the spring, remaining sometimes as late as the beginning of May, and assuming the fine red tints of plumage peculiar to their breeding state before they leave for those northern districts in which they produce their young. Dr. Fleming mentions having shot one in Sanda on the 15th of June 1808; but I am not aware of any record of the Knot breeding in the British Islands, nor do I know of any British collection that contains its eggs. According to M. Nilsson, the Knot inhabits the arctic portions of Sweden and Norway in summer, but no description of the eggs is given. Mr. Dann's notes on this species are as follows:—"Except on the coast of Scona and the southern parts of Scandinavia in spring and autumn, these birds have not been met with by me, nor have its summer haunts in Europe been clearly ascertained; there is, however, little doubt but that these are in Finland and the north-eastern parts, as the bird seems to make its appearance on the eastern coast of Scandinavia first. It would be interesting to know whether we are indebted to Europe, Iceland, or North America for the vast numbers that appear on the eastern coasts of England in autumn."

The Knot visits Iceland and goes to much higher northern latitudes every summer, as reference to the Natural History details of the various Arctic Expeditions from this country will prove. Captain Sabine in his Memoir on the Birds of Greenland, says, "The Knot was killed at Hare Island in June." On Sir Edward Parry's first voyage these birds were found breeding in great abundance on the north Georgian Islands; and on the second voyage a young male of the year was killed in the Duke of York's Bay on the 17th of August. Dr. Richardson adds, "Knots were observed breeding on Melville Peninsula by Captain Lyon, who tells us that they lay four eggs on a tuft of withered grass, without being at the pains of forming any nest." In the Fauna Boreali Americana, Dr. Richardson says the Knot breeds in Hudson's Bay and down to the fifty-fifth parallel; the eggs are described as being of a light yellowish brown, marked at the larger end with grey and reddish spots, forming more or less a sort of zone, and but little spotted towards the point. This bird in all its various states of plumage appears to be well known to the ornithologists of the United States.

Returning to the British Islands, Mr. Thompson sends me word that the Knot is a regular autumn visitant to Ireland. It is also found in flocks on most of the shores of the southern and eastern counties of England in autumn; the greater portion of these are young birds of the year that have come southward from the breeding grounds, and the London markets exhibit a good supply through the winter. They are excellent birds for the table, and their good qualities as food appear to have been long known. In the Norfolk Household Book, which I have frequently quoted, and which commences in 1519, are various records of rewards to the fowler for bringing in Knots. Pennant quotes Camden as saying "that these birds derive their name from King Canute, Knute or Knout as he is sometimes called; probably because they were a favourite dish with that monarch."

The birds appear to feed principally on aquatic insects and the soft animals inhabiting bivalve shells. They have been observed to swim with great ease, and are stupidly tame on their first arrival in autumn. Sir William Jardine mentions "that he once met with a large flock on the east side of Holy Island, in the month of September, which were so tame as to allow him to kill as many as he wanted with stones from the beach, and he possesses another specimen, in full plumage, killed by a boy on Portobello Sands by the same means."

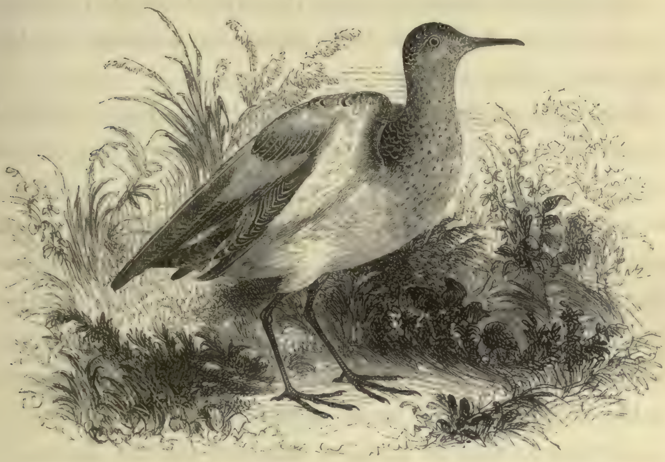
M. Temminck says the Knot is seen in spring and autumn in Holland, but that it is rare in Germany, France, and the more southern portions of Europe, and is seen, but very rarely, at Sicily and Malta. I am unable to trace it as going to the eastward, but Mr. Blyth has obtained it in the vicinity of Calcutta.

A male in perfect summer plumage obtained from Yarmouth so late in the season as the 25th of May 1820, and from which the figure in the front of the illustration here given was drawn, has the beak black; the irides hazel; cheeks and round the eye chestnut red, with a few dark brown spots between the beak and the eye, and on the ear-coverts; the forehead, top of the head and the back of the neck reddish brown, streaked with dark brown; back, scapulars, smaller wing-coverts and tertials black, margined with reddish brown and white; greater wing-coverts ash grey; primaries greyish black, with white shafts; secondaries edged with white; rump and upper tail-coverts white, tinged with red, with crescentic bars of black and edged with white; tail-feathers ash colour, darker near the margin, and edged with white; chin, neck, breast, and belly nearly uniform rich reddish chestnut; flanks, vent, and under tail-coverts white, tinged with red and spotted with black; legs, toes, and claws, bluish black.

The whole length of an adult bird ten inches; from the carpal joint to the end of the first quill-feather, which is the longest in the wing, six inches and a half.

Young birds of the year in autumn have the upper surface of the body ash grey, each feather with two narrow half circular bands near the end, the first of greyish black, the ultimate band buffy white, later in the season pure white; the neck white, streaked with grey; the breast dull white, tinged with reddish buff.

Adult birds in winter have all the upper surface of the body and the wing-coverts uniform ash grey; wing-primaries as in summer; all the front of the neck, the breast, and under surface of the body white, slightly streaked with grey.



THE BUFF-BREASTED SANDPIPER.

Tringa rufescens.

Tringa rufescens,	*Buff-breasted Tringa,*	Selby, Brit. Ornith. vol. ii. p. 142.
„ „	„ „ *Sandpiper,*	Jenyns, Brit. Vert. p. 214.
„ „	„ „ „	Eyton, Rare Brit. Birds, p. 39.
„ „	„ „ „	Gould, Birds of Europe, pt. xvii.
„ „	*Bécasseau rousset,*	Temm. Man. d'Ornith. pt. iv. p. 408.

I had the gratification of obtaining the specimen of the interesting and prettily marked Sandpiper, from which the figure above was taken, in the autumn of 1826, when at Royston; and soon afterwards made it known as a new visiter to England and Europe in the Transactions of the Linnean Society. This bird was shot early in the month of September 1826, in the parish of Melbourne, in Cambridgeshire, in company with some Dotterell (*Charadrius morinellus*); and passed immediately afterwards into the possession of Mr. Baker of Melbourne, by whom the skin was preserved, and of whom it was purchased by John

Sims for me. A few years afterwards, Mr. John Sims, who had then removed to Norwich, obtained a second example of this species, which was killed at Sherringham on the coast of Norfolk, and which he preseved for the Museum at Norwich.

For the knowledge of a third specimen, I am indebted to the Rev. T. Staniforth, of Bolton Rectory, Skipton, in whose collection the bird is preserved. This gentleman very kindly at my request, sent me word that his example, which was a male, was killed at Formby on the banks of the river Alt, about thirteen miles north of Liverpool, in May 1829, and was sent to Liverpool market for sale along with some Snipes. A fourth specimen, shot at Yarmouth in the autumn of 1839 or 40, is now in the possession of T. C. Heysham, Esq. of Carlisle, who did me the favour to send his bird to London that I might see it.

Two specimens of this rare Sandpiper have since been killed at Yarmouth, one in the autumn of 1841, the other about the same time of the year 1843. These were recorded by J. H. Gurney, Esq. and Mr. W. R. Fisher.

M. Vieillot includes this species in his Birds of France, on account of its having been found in Picardy by M. Jules de Lamotte.

This bird was first made known as a species by M. Vieillot, from an example obtained in Louisiana; and it is described and figured in his *Galerie des Oiseaux*, as the type of the genus *Tringa*, p. 105. pl. 238. It is also described as *Le Tringa roussâtre*, Nouv. Dict. d'Hist. Nat. 2de édit. tom. xxxiv. p. 470, and Encycl. Méth. p. 1090.

From M. Natterer, we learn that this bird is common in Brazil; but though found also in Louisiana and occasionally in the more northern states of America, it was not known to Wilson or to the Prince of Musignano. Mr. Nuttall, in his Manual of the Ornithology of the United

States and of Canada, says, "this elegant species, some seasons, is not uncommon in the market of Boston, in the months of August and September, being met with near the capes of Massachusetts Bay. My friend Mr. Cooper has also obtained specimens from the vicinity of New York. Its food, while here, consists principally of land and marine insects, particularly grasshoppers, which abounding in the autumn, become the favourite prey of a variety of birds." Vol. ii. p. 113.

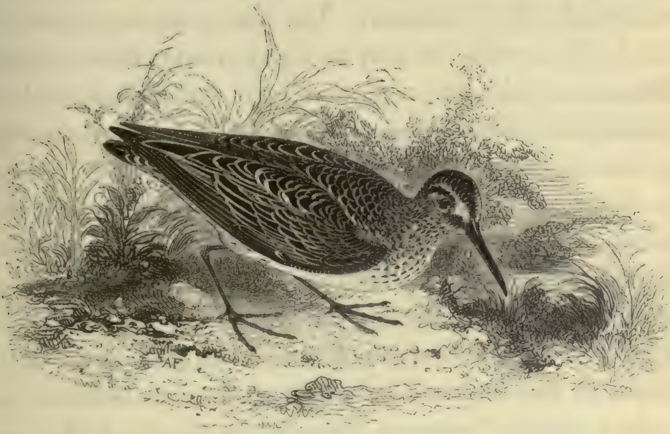
The figure in Mr. Audubon's work was taken from an American specimen, procured at Boston. I regret, however, says the author, " that I can say nothing respecting the habits or haunts of this bird, farther than, that having seen a wing of it in the possession of my friend Captain James Clark Ross, I think it probable that it breeds near the Arctic Circle, as he received the wing from the sailors, who had found it in the course of one of the numerous inland excursions in the desolate regions, from which these intrepid navigators have recently returned."

This species is readily distinguished from all the other birds of this genus by the peculiar markings of the under surface of the wings.

The plumage and the state of the ossification of the tarsi, prove my specimen to be a young bird of the year; the specimen obtained at Sherringham, of which Mr. John Sims sent me a coloured drawing, and Mr. Heysham's example, I believe to be also young birds, but whether they had wandered from the north eastern shores of America to the Arctic portion of Lapland, and had from thence accompanied the Dotterell, or other birds, in their southern autumnal visit to this country, or had been bred in the marshes of the counties in which they were killed, can only be conjectured. M. Nilsson does not include it in his Fauna of Scandinavia.

The beak is slender, and very slightly curved, three-quarters of an inch in length, and greenish black; from the point to the gape it measures one inch, and from the gape to the occiput is also one inch: the irides hazel; the feathers on the top of the head dark brown, approaching to black, each feather edged with very light brown, giving a mottled appearance; the back of the neck light brown, the dark spots formed by the centre of each feather minute; the back very dark brown, the extreme edges only of the feathers light brown; the wing-coverts brown; the primaries nearly black, tipped with white; the shafts white; the tertials brown, edged with light brown; upper tail-coverts brown, with lighter coloured borders; the tail cuneiform, the centre feathers black, the shafts and edges lighter; the feathers on each side light brown, enclosed by a zone of black, and edged with white; the chin, sides of the neck, throat and breast, light brown, tinged with buff; abdomen, flanks, and under tail-coverts white, but pervaded also with the buff colour of the higher parts; the sides of the neck spotted, from the dark centres of the feathers occupying a larger surface than upon the front; axillary plume pure white; under surface of the broad web of the primaries beautifully mottled with dark specks; under surface of the secondaries ending in sabre-shaped points, presenting a series of lines formed by alternating shades of white, black and dusky bands, which in the adult bird are well defined, and present a beautifully variegated appearance, peculiar to this species. The legs are bare for half an inch above the joint; the tarsus measures one inch and one quarter; legs and toes brown, the claws black. Whole length of the bird about eight inches. From the carpal joint to the end of the first quill-feather, which is the longest, five inches and a quarter.

GRALLATORES. *SCOLOPACIDÆ.*



THE BROAD-BILLED SANDPIPER.

Tringa platyrhyncha.

Tringa platyrhyncha, *Broad-billed Sandpiper*, GOULD, Birds of Europe, pt. xvii.
„ „ *Bécasseau platyrhinque*, TEMM. Man. d'Ornith. vol. ii. p. 616.
„ „ „ „ „ „ vol. iv. p. 403.

THE flatness and breadth of the beak in this species has suggested the names by which it is distinguished, and one example of this rare Sandpiper having been killed in Norfolk, and recorded by the late Mr. F. D. Hoy, in the tenth volume of the Magazine of Natural History, the bird is entitled to a place in this work, and I quote Mr. Hoy's original notice.

"The Flat-billed Sandpiper *Tringa platyrhyncha*, and *Bécasseau platyrhinque* of M. Temminck's Manual, was shot on the 25th of May 1836, on the muddy flats of Breydon Broad. It was in company with some Dunlins and Ring-plovers. From the season of the year, it had probably acquired its summer plumage ; and it very closely agrees with the description of the nuptial garb of the species as given by M. Temminck. This bird is rather inferior in size to the Dunlin, but may be always readily distinguished from that species by the peculiar form of the bill, as well as considerable difference in plumage. This specimen was preserved by a friend of mine, who did not notice the sex. It is probable that this Sandpiper may occasionally be found on our eastern coasts during the time of its periodical flights, but, from its similarity to one or two closely allied species, has hitherto escaped detection."

A second example of this rare bird was shot on the oozy banks of Belfast Bay on the 4th of October, 1844, as recorded by W. Thompson, Esq., in the Annals of Natural History, vol. xv. This bird was in company with Golden Plovers and Dunlins.

Although this species has been obtained, but very rarely, in Italy, Switzerland, Germany, France, and Scandinavia, as a reference to the works of Savi, Schinz, Brehm, Vieillot, and Nilsson will prove, yet little or nothing of its habits are known.

This subject, however, in its most interesting particulars, those referring to the breeding-season, has now been completely ascertained by Richard Dann, Esq., who, during his recent visits to Norway and Lapland, having ascertained the breeding grounds of this species, has succeeded in obtaining the old birds in their breeding plumage, their eggs, and a young bird when just able to fly. Mr. Dann has most liberally presented me with the eggs, the young bird, and an old one. I am moreover indebted to his kindness for a long series of notes for my use in this work, of the localities frequented during the breeding season, by a very large proportion of those birds which only visit this country for the winter. Mr. Dann's name, as well as information obtained from him, has already appeared, on many occasions, in this history, and his notes in reference to the Broad-billed Sandpiper are to the following effect.

This Sandpiper is by no means uncommon during the breeding season in Lulea, and Tornea Lapmark, frequenting grassy morasses and swamps in small colonies, generally in the same places as those frequented by the *Totanus glareola*, our Wood Sandpiper. It breeds also at Fogstuen on the Dovre Fi-eld mountains, about three thousand feet above the level of the sea, in Norway, where it arrives at the latter end of May. On its first appearance it is wild and shy, and similar in its habits to the other species of the genus, feeding on the grassy borders of the small pools and lakes in the morasses. On being disturbed it soars to a great height in the air, rising and falling suddenly like the Snipe, uttering the notes *too who*, which are rapidly repeated. As the weather becomes warm, its habits totally change, skulking and creeping through the dead grass, and allowing itself to be followed within a few yards, and when flushed, dropping again a short distance off. It seems to lay its eggs later than others of this tribe generally. I found the eggs not sat upon on the 24th of June, and the last week in July the young were unable to fly; a period when all the other Sandpipers are on the move south. The eggs were of a deep chocolate colour, and its nest, like that of the Snipe, was on a hummocky tuft of grass. Although I found the young only half fledged the last week in July, and hunted the morasses very carefully, I never flushed or saw a single old bird, yet undoubtedly they must have been there, so difficult is it at that period to get them on the wing, and so entirely different from their habits in the spring. They are said by M. Nilsson to be rare visitants to Scandinavia, but they are undoubtedly numerously disposed, but from their very small size and hidling habits, are difficult to be discovered, added to the almost impassable nature of the swamps they frequent. There were several small colonies of them in different parts of the extensive swamp at Fogstuen; I procured five specimens there, and might have obtained as many more, had I desired it; I also procured one nest with four eggs in it.

M. Schinz of Geneva, says, in his Fauna Helvetica, that this Sandpiper has been taken in the vicinity of two or three of the lakes of Switzerland, and that these captures have always occurred in the month of August. M. Temminck mentions that this species is found on several of the islands of the Indian Archipelago, at Borneo, Sumatra, and Timor, and he has been assured that it is also found on the continent of India.

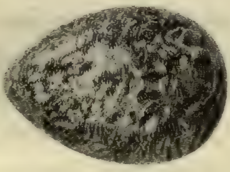
The adult bird, in the breeding season, has the beak, which is one inch and one sixteenth in length, dark brown at the point, inclining to reddish brown at the base; irides brown; from the base of the beak to the eye a dark brown streak; over that and the eye a white streak, with a brown central longitudinal line; top of the head brownish black, slightly varied with greyish white, and tinged with ferruginous; inter-scapulars nearly black with rufous edges; scapulars, wing-coverts, lower part of the back, and the tertials, black, the feathers having broad margins of buffy white or rufous; the primary and secondary quill-feathers black; the shafts white; upper tail-coverts black with rufous edges; the two middle tail-feathers nearly black, longer than the others, pointed and margined with rufous; the others ash grey, margined with buff colour; chin nearly white, with minute dark specks; sides and front of the neck, and the upper part of the breast greyish white, varied with black spots and tinged with buffy red; belly, vent, and under tail-coverts white; legs, toes, and claws, greenish black. The whole length of the adult birds six inches and three-eighths; wing, from the carpal joint to the end of the first, which is the longest feather, three inches and seven-eighths; length of the tarsus five-eighths.

The young bird so closely resembles the parent in its plumage at this season, that it is unnecessary to describe it.

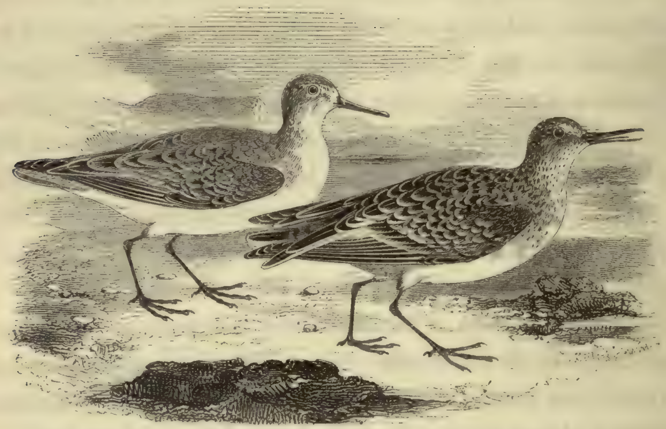
The example figured by Mr. Gould in his Birds of Europe, was killed in autumn, and has the margins of the feathers on the upper surface of the body almost white.

By the kindness of Mr. Bartlett I now possess a specimen of this bird in its winter plumage which closely resembles that of our Dunlin at the same season. The beak is dark brown, almost black; from the base of the beak to the eye a brown streak, over that a broad one of white; top of the head, nape, back, all the wing-coverts and tertials ash grey, the centre of each feather darker and the margin lighter; primaries black; chin, neck in front, and all the under surface, pure white; legs blackish brown. The bird in this state of plumage is well figured in the 16th Part of 'Gray and Mitchell's Genera of Birds.'

The figure below represents one of the eggs which is mottled with chocolate brown; upon the others the chocolate brown colour was uniformly spread over the whole surface.



GRALLATORES. *SCOLOPACIDÆ.*



THE LITTLE STINT.

Tringa minuta.

Tringa pusilla,	*Little Sandpiper,*	PENN. Brit. Zool. vol. ii. p. 95.
„ „	„ „	MONTAGU, Ornith. Dict.
„ „	„ *Stint,*	BEWICK, Brit. Birds, vol. ii. p. 115.
„ *minuta,*	„ *Sandpiper,*	FLEM. Brit. An. p. 109.
„ „	*Minute Tringa,*	SELBY, Brit. Ornith. vol. ii. p. 147.
„ „	*Little Stint,*	JENYNS, Brit. Vert. p. 212.
„ „	„ *Sandpiper,*	GOULD, Birds of Europe, pt. v.
„ „	*Bécasseau echasses,*	TEMM. Man. d'Ornith. vol. ii. p. 624.

THE LITTLE SANDPIPER, or Little Stint, as it is also called, from its diminutive size, goes through seasonal changes of colour in its plumage like those observed to take place in the Curlew Sandpiper and the Knot, already described, but is more common in autumn than at any other period of the year. The species was first mentioned by Pennant as a British Bird from a specimen killed in Cambridgeshire, and is most frequent on the southern and eastern shores of this country. Indeed from the eastern localities that will be quoted as within the geographical range of this little bird, it is probable that it seldom comes so far to the westward as the British Islands, when on its way in the spring to the high northern latitudes in which a portion of them every year produce their young. One specimen was obtained by the Naturalists on Sir Edward Parry's second Arctic voyage. M. Nilsson says it is found in Sweden from spring to autumn. Mr. Dann's note, as communicated to me, is as follows: The Little Stint is by no means common, and the only specimens I have met with have been in the autumn, in the flooded grounds on the banks of rivers and lakes. On being approached they squat down and allow you to advance within a few feet of them. According to Mr. W. Thompson a small number are seen every autumn in Belfast Bay. Mr. Heysham has several times recorded the appearance of old and young birds in autumn, in the vicinity of the Solway. Mr. Thomas Howitt sent me notice of the occurrence of this bird in the western part of Lancashire. The Rev. W. S. Hore, with his friend Mr. Gutch, saw from forty to fifty examples on the Laira mud banks near Plymouth, in October 1840, and shot ten or twelve of them. They are frequently observed on the sands of the coast of Sussex. I have obtained them in the London market, once in the summer plumage, once in that peculiar to the winter, but more frequently in autumn. Mr. Plomley sent me word from Romney Marsh, that a flock of thirty was seen there in October 1839. They are frequent on the coasts of Suffolk, Norfolk, Yorkshire, and Durham, in the autumn: Bewick's specimen was obtained in September; but they are not so often killed in the more northern counties. They are most frequently found on the sandy shores of the sea, and generally in company with the Dunlin or the Sanderling, or both, as they fly in small, and sometimes in large flocks together. They select for food aquatic insects, small crustacea, worms, and mollusca. Of their breeding ground, or their habits at that season, very little is known.

M. Temminck says this species is observed on its passage in spring and autumn, in Germany, Holland, and France. M. Vieillot says that it has occasionally been obtained in France both in summer and winter. Polydore Roux includes it as a bird of Provence.

The Zoological Society have received this bird from Tangiers; and Dr. Andrew Smith obtained it in South Africa. Mr. Selby mentions having seen specimens of this bird from Italy in summer plumage; it is said to be found in considerable numbers in the salt marshes of Dalmatia. It is found in Corfu, Sicily, Malta, and Crete. The Zoological Society have received specimens from Trebizond, sent by Messrs. Dickson and Ross; and M. Menetries, the Russian Naturalist, met with it in the vicinity of the Caucasus. Lastly, I may add, that Major Franklin, Mr. Selby, M. Temminck, B. Hodgson, Esq., and Mr. Blyth, have recorded that specimens from India agree exactly with the European bird.

In its summer plumage the beak is black; the irides dark brown; the top of the head and the neck ferruginous, with specks of black; the feathers of the back, scapulars, wing-coverts, tertials, and upper tail-coverts, black in the centre, with broad ferruginous margins; the point of the wing nearly black; the primaries black, with white shafts; the secondaries nearly black, tipped with white; the tail, when perfect, doubly forked, the feathers ash brown; the chin, breast, and all the under surface of the body pure white; sides of the neck, down to the front of the wing, and a band round the front of the neck, ferruginous speckled with black; axillary plume pure white; legs, toes, and claws, dull black.

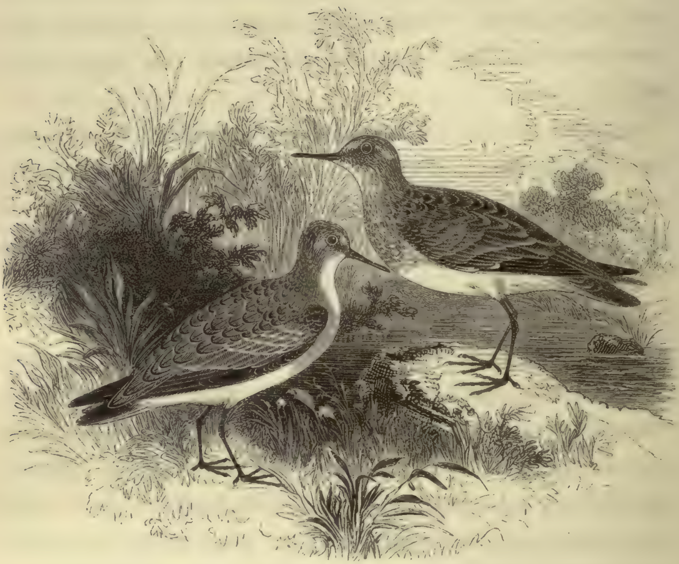
The whole length six inches; the beak three-quarters of an inch; from the carpal joint of the wing to the end of the first quill-feather, which is the longest, three inches and three-quarters; the length of the tarsus ten lines and a half.

An adult bird in its autumn plumage, killed in September, has the beak black; irides dark brown; from the base of the beak to the eye, and on the ear-coverts, a brown streak; above and below the eye greyish white; sides and back of the neck ash grey, streaked with darker grey; feathers of the back, scapulars, wing-coverts, and tertials, nearly black, with broad margins of reddish brown and buffy white; quill-feathers dusky with white shafts; secondaries edged and tipped with white; rump and upper tail-coverts dark brown, edged with dull reddish brown; tail-feathers ash grey, margined with buffy white; chin, breast, and all the under surface, pure white, with the exception of a dusky band across the bottom of the neck in front; axillary plume white at all seasons; legs, toes, and claws, nearly black.

Young birds of the year, in their first autumn, have the feathers of the upper surface of the body ash brown rather than black, in the middle, with broad margins of buffy white, which soon become almost pure white.

The adult bird in winter plumage has the head and neck ash grey, the central line of each feather being a little darker than the margin; back, wing-coverts, rump and upper tail-coverts, ash colour, the shaft of each feather forming a decided dark line; primary and secondary quill-feathers as in autumn; tertials ash brown, with lighter coloured margins; tail-feathers ash grey with narrow white edges; all the under surface of the body as in autumn; beak, irides, legs, toes, and claws, also as in the autumn.

GRALLATORES. *SCOLOPACIDÆ.*



TEMMINCK'S STINT.

Tringa Temminckii.

Tringa pucilla,	*Little Sandpiper,*	Montagu, Appendix to Ornith. Dict.
,, *pusilla,*		Flem. Brit. An. p. 112.
,, *Temminckii,*	*Temminck's Tringa,*	Selby, Brit. Ornith. vol. ii. p. 144.
,, ,,	,, *Stint,*	Jenyns, Brit. Vert. p. 211.
,, ,,	,, *Sandpiper,*	Eyton, Rare Brit. Birds, p. 44.
,, ,,	,, *Tringa,*	Gould, Birds of Europe, pt. xvii.
,, ,,	*Bécasseau Temmia,*	Temm. Man. d'Ornith. vol. ii. p. 622.

This diminutive Stint, named after M. Temminck, is still smaller in size than the Little Stint last described, and is the smallest of the British Sandpipers; it is also much more rare than the Little Stint, and somewhat different in its habits, frequenting the borders of rivers and fresh-water lakes at a distance from the coast, like our Common Sandpiper, *T. hypoleucos,* but is sometimes found on the sandy or muddy creeks and shores of the sea.

Although not distinguished by Montagu from his Little Sandpiper, the description given in the Appendix to the Ornithological Dictionary, leaves no doubt that he had a specimen of Temminck's Stint under consideration, but these two European Stints have been confounded by others. Mr. Thompson has not recorded the occurrence of Temminck's Stint in Ireland. Mr. Couch, in his Cornish Fauna, says that two specimens were killed at Swanpool, and are now in the collection of Mr. Clement Jackson at East Looe. Colonel Montagu's example of this species was killed in Devonshire, and others have been obtained in the same county since. I have seen specimens from the neighbourhood of Chichester, and have three British examples, in different states of plumage, in my own collection. Mr. Bond sent me word that he met with a pair of old birds in the spring of 1839, on the margin of Kingsbury Reservoir in Middlesex, and several young ones in the autumn of the same year, obtaining one of the old ones and five young ones. The Rev. Leonard Jenyns sent me notice of one killed in Cambridgeshire on Foulmire moor, by Mr. Baker, of Melbourne. Several have been killed in Norfolk, and some in Yorkshire, one near Scarborough, another near Hull, but they are more rare in the northern counties; Mr. Heysham, of Carlisle, has, however, recorded them as occurring in Rock-cliff salt marsh.

M. Nilsson says it breeds on the shores of the seas of Northern Europe, but the eggs of this bird, or its habits at the breeding ground, are unknown. Its food is small insects and worms.

This species is seen on its passage in spring and autumn, in Germany and Holland; M. Vieillot reports the same of it in France. M. Schinz, in his Fauna Helvetica, says it is occasionally obtained, in spring and autumn, on the borders of rivers and lakes in Switzerland. At Genoa, and in Italy, it is sometimes seen in May, but not every year. Mr. Gould says it visits North Africa; and Mr. Strickland saw it at Smyrna in winter. It has been found in North Western India. Mr. Gould mentions that specimens have been received here from a high range on the Himalaya; B. Hodgson, Esq. has obtained it in Nepal; Mr. Blyth finds it about Calcutta, and Colonel Sykes includes it in his catalogue of the Birds of the Dukhun; M. Temminck says that examples from Timor and the islands of the Indian Archipelago, are identical with those of Europe.

An adult bird, killed at a pond side in Essex, in the month of May, and lent me by Mr. Henry Doubleday, has the beak dull black; the irides dark brown; feathers of the head and neck pale brown, speckled with dark brown; feathers of the scapulars and back, some ash brown, others black with rufous margins; wing-coverts nearly uniform ash brown; primaries dusky brown, the shaft of the first quill-feather whiter than those of the others; secondaries dusky, but tipped with white; tertials uniform dusky brown; tail-coverts dusky brown, those nearest the tail-feathers almost black; tail cuneiform, or somewhat graduated, the central pair of feathers the longest, the darkest in colour, and pointed; the next feather on each outside ash brown, the next ash grey, the three outside feathers on each side white, tinged with light ash grey on the narrow outer webs only, the outside feather on each side being the shortest; the chin white; sides of the neck grey; the neck in front pale brown, spotted with dusky brown, and tinged with buff; breast, belly, and under tail-coverts white; under surface of the wings ash grey, the shafts of all the primaries white; axillary plume pure white; legs and toes greenish brown.

The whole length of the largest specimen I ever saw five inches and three-quarters; length of the beak nine-sixteenths of an inch; from the carpal joint to the end of the first quill-feather, which is the longest in the wing, three inches and five-eighths; length of the tarsus eleven-sixteenths, the bare part above half the length of the tarsus.

A specimen killed earlier in the season, had not acquired the rufous margins to the dark coloured feathers of the back and scapulars.

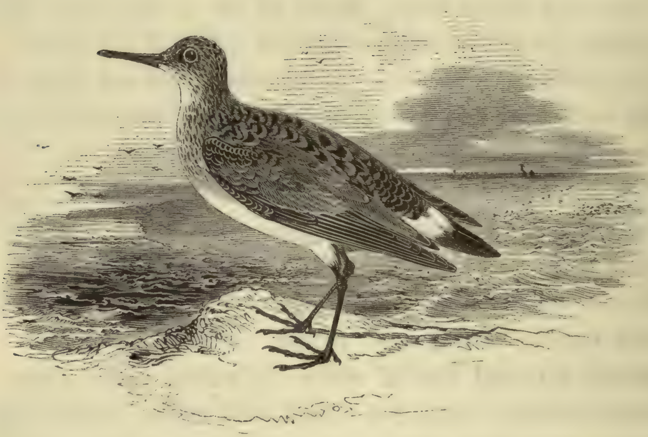
A young bird of the year, killed in the plumage of its first autumn, has the beak black; irides dark brown; head, neck, and upper part of the back, ash grey; wing-coverts, scapulars, and lower part of the back, ash brown, each feather ending with a half circle of black, and a minute terminal line of white; primaries dusky black; secondaries the same, but tipped with white; tertials ash brown, with dark shafts, and tipped with white; central tail-feathers elongated, pointed, ash brown, outside feathers white; chin, neck in front, breast, and all the under surface pure white.

An adult bird, killed in October, has the head and neck ash grey, varied with dark brown; the back and wing-coverts nearly uniform dusky brown, with narrow lighter-coloured margins.

The American Stint, the *Tringa pusilla* of Linneus and Wilson, is perfectly distinct from either of our British species. It accords most nearly with Temminck's Stint in size and measurements, but goes through the seasonal changes of plumage peculiar to *T. minuta*, and has the outside tail-feathers ash colour. While penning this observation, I have specimens of the American Stint, as well as several of both our species, before me.

The representations of Temminck's Stint here given, were taken from an adult bird in spring, and a young bird in autumn.

GRALLATORES. *SCOLOPACIDÆ.*



SCHINZ'S SANDPIPER.

Tringa Schinzii.

Tringa Schinzii,		*Schinz's Sandpiper,*	Eyton's Fauna of Shropshire, An. Nat. Hist. vol. ii. p. 53.
,,	,,	,, ,,	Gould, Birds of Europe, pt. xxii.
,,	,,	*Bécasseau de Schinze,*	Temm. Man. d'Ornith. vol. iv. p. 401.

Mr. Eyton in his Fauna of Shropshire, says, that a specimen of this Sandpiper killed near Stoke Heath is in the collection of Sir Rowland Hill. The specimen was lent to Mr. Gould, who says, "We have compared the individual from which our figure is taken, with others killed in America, between which we could discover no difference; its shorter bill and white rump will at all times serve to distinguish it from the other European members of the group."

Another example in the Museum at Belfast, there is reason to believe, was killed in Ireland.

This Sandpiper, named after M. Schinz, the distinguished naturalist of Switzerland, is not, however, the *Tringa Schinzii* of M. Brehm, but an American species, the *Tringa Schinzii* of C. L. Bonaparte, Prince Canino ; and I must quote American Ornithologists for its habits and distribution. This species, was, however, unknown to Wilson.

Mr. Thomas Nuttall, who published his volume on the Water Birds of the United States and of Canada in 1834, says, " This species, so nearly related to the Purre or Dunlin, is also common to both continents ; penetrating inland in America to the western plains of the Mississippi, and inhabiting the shores of the small lakes which skirt the plains of the Saskatchewan, and probably the remoter wilds of the Arctic circle. According to Bonaparte, they are rather common on the coast of New Jersey in autumn, and Mr. Oakes met with this species in the vicinity of Ipswich in Massachusetts. They are either seen in flocks by themselves, or accompanying other Sandpipers, which they entirely resemble in their habits and food, frequenting marshy shores, and the borders of lakes, and brackish waters. They associate in the breeding season, and are then by no means shy ; but during autumn accompanying different birds, they become wild and restless. Their voice resembles that of the Dunlin, but is more feeble ; and they nest near their usual haunts, by lakes and marshes, laying four eggs smaller than those of *Tringa alpina* (the Dunlin) of a yellowish grey, spotted with olive or chestnut brown."

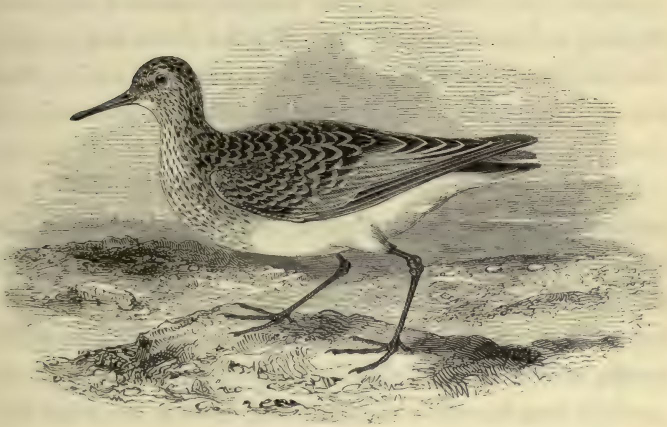
Mr. Audubon's account of this Sandpiper, published in 1835, is as follows:—" Although I have met with this species at different times in Kentucky, and along our extensive shores from the Floridas to Maine, as well as on the coast of Labrador, I never found it breeding. Indeed

I have not met with it in the United States excepting in the latter part of autumn and in winter. Those procured in Labrador were shot in the beginning of August, and were all young birds, apparently about to take their departure. My drawing of the two individuals represented in my plate was made at St. Augustine in East Florida, where I procured them on the 2nd of December 1831. They search for food along the margins of pools, creeks, and rivers, or by the edges of sand-bars."

I am indebted to the kindness of Mr. Audubon for the only specimen of this Sandpiper I possess, and from which the drawing at the head of this subject and the following description were taken. The bird I believe to have been killed in spring. The beak is straight and nearly black; the irides brown; the top of the head and back of the neck ash brown, streaked with dusky; scapulars and feathers of the back ash brown, some assuming a deep black colour in the centre and becoming rufous on the edges; wing-coverts ash brown edged with greyish white; primaries dusky black with white shafts; secondaries dusky brown with minute tips of white; tertials dusky brown margined with ash grey; upper tail-coverts white; two middle tail-feathers pointed, longer than the others and dark brown; the rest ash brown; chin white; cheeks, sides of the neck and upper part of the breast greyish white, speckled with dusky; axillary plume white; belly and under tail-coverts also white; legs, toes, and claws, almost black, tinged with green.

The whole length six inches and a half. From the carpal joint of the wing to the end of the first quill-feather, which is the longest, four inches and three-quarters.

GRALLATORES. *SCOLOPACIDÆ.*



THE PECTORAL SANDPIPER.

Tringa pectoralis.

Tringa pectoralis,	*Pectoral Sandpiper,*	Jenyns, Brit. Vert. p. 210.
,, ,,	,, ,,	Eyton, Rare Brit. Birds, p. 42.
,, ,,	,, ,,	Gould, Birds of Europe, pt. xxii.
,, ,,	*Bécasseau pectoral,*	Temm. Man. d'Ornith. vol. iv. p. 397.

An example of another American Sandpiper, the *Tringa pectoralis* of C. L. Bonaparte has occurred in this country. This bird was killed October the 17th 1830 on the borders of Breydon Broad, an extensive sheet of water near Yarmouth in Norfolk, rather celebrated for the numerous rare birds which have at different times been observed and shot on its banks and waters. The person who killed it remarked that it was solitary, and its note was new to him, which induced him to shoot it. The bird on dissection proved to be a female, and was preserved by the late Mr.

J. Harvey. It soon afterwards passed into the possession of Mr. J. D. Hoy, who believing it to be undescribed as a British bird, had selected it and sent it up to me for inspection. Mr. Audubon being then in London I exhibited the bird to him, as a good authority for American species, and he immediately confirmed the previous notion that the bird was an example of the *Tringa pectoralis* of America.

Since the occurrence of Mr. Hoy's specimen, another example of the Pectoral Sandpiper has been obtained in this country, and a third bird seen. D. W. Mitchell, Esq. of Penzance sent me in June 1840 a coloured drawing of the natural size, and a fully detailed description, with measurements, of a Sandpiper, shot by himself on the 27th of the previous month, while the bird was resting on some seaweed within a few yards of the water, on the rocky shore of Annet, one of the uninhabited islands at Scilly. On the following day another example was seen, but became so wild after an unsuccessful shot, that it took off to another island and escaped altogether. The close accordance of the specimen obtained with the description of *Tringa pectoralis* in summer plumage in the Fourth Part of M. Temminck's Manual, led Mr. Mitchell to a true conclusion as to the species and its novelty and interest in this country.

Dr. Edward Clarke, who is well acquainted with British birds, sent me word that an example of this rare Sandpiper was killed near Hartlepool in October 1841.

This Sandpiper, like the last, was also unknown to Wilson, and we must be indebted to later authorities for our knowledge of its habits. Mr. Nuttall says, "This conspicuous species of Sandpiper, first detected by Mr. Say, is by no means uncommon in various parts of the United States; migrating north, and perhaps west, to breed, as they are common in the remote plains of the Mississippi, and retire at the approach of winter to the southern limits of the Union, being met with at this season also in the West Indies. According to D'Azara and C. L. Bonaparte, they are found even in Brazil and at Montevideo. They are killed in abundance on the shores of Cohasset, and other parts of Massachusetts Bay, and are brought in numbers to the market of Boston, being very fat and well flavoured. They arrive in flocks about the close of August, and continue here, as well as in New Jersey, till the month of September, and perhaps into October. In some instances, solitary individuals have been killed in the marshes of Charles river in Cambridge, about the 22nd of July; these were in company with the flocks of small Sandpipers, *T. Wilsonii* of Nuttall, *T. Pusilla* of Wilson; but whether pairs may breed in the neighbouring marshes or not, we have not had the means of ascertaining. While here they feed on small coleoptera, larvæ, and the common green *Ulva latissima*, as well as some species of *Fucus*, or sea-weed, on which they become very fat. They utter a low plaintive whistle when started, very similar to that of some other species. Like the Snipe they seem fond of damp meadows and marshes, and solitary individuals are often surprised by the sportsman in the manner of that bird."

Mr. Audubon in his third volume says, "This Sandpiper is not uncommon along the shores of our Eastern States in autumn and winter. It has also lately been found in England, and I have seen a specimen of it in the possession of William Yarrell of London, which was shot at no great distance from the metropolis. I first met with this species in the immediate vicinity of Dennisville, in the State of Maine, feeding on the rocky bars of the river at low water."

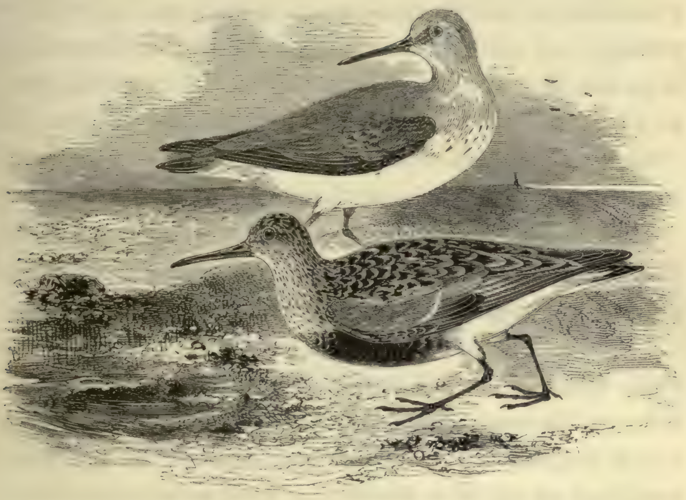
The stomach of one examined by Mr. Audubon contained the remains of small crustacea, seeds, and fragments of quartz.

I am in this instance also indebted to Mr. Audubon for the specimen of *Tringa pectoralis*, from which the figure was drawn and the following description taken.

The beak is dark brown at the point, orange brown at the base; irides dark brown; feathers of the top of the head dusky brown, with darker central streaks, and tipped with rufous; the back of the neck, the wing-coverts, the back, and the tertials dark brown, with lighter coloured margins; primaries dusky black, the shaft of the first white; secondaries dusky black, each with a narrow edge of white; rump, and upper tail-coverts, and the two middle tail-feathers, which are the longest, black; the rest of the tail-feathers ash brown tipped with yellowish white; chin white; the cheeks, sides and front of the neck, and the upper part of the breast, greyish white tinged with brown and streaked with dusky black in the line of the shaft of each feather; lower part of the breast, belly, and under tail-coverts white; legs and toes yellowish brown; claws black.

The whole length eight inches and three-quarters; the wing from the carpal joint to the end of the first quill-feather, which is the longest, five inches and three-eighths.

While the account of this Sandpiper was going through the press, Mr. Mitchell very kindly sent me his specimen from Cornwall for my use; and this bird, killed as stated on the 27th of May, has all the feathers of the back, the scapulars, tertials, and two middle tail-feathers broadly edged with ferruginous, which in my own bird, killed at a different season of the year, are pale brownish white.



THE DUNLIN.

Tringa variabilis.

Tringa alpina,	*Dunlin Sandpiper,*	PENN. Brit. Zool. vol. ii. p. 92.
„ *cinclus,*	*Purre* „	„ „ „ „ p. 94.
„ *alpina,*	*The Dunlin,*	MONTAGU, Ornith. Dict.
„ *cinclus,*	„ *Purre,*	„ „ „
„ *alpina,*	„ *Dunlin,*	BEWICK, Brit. Birds, vol. ii. p. 110.
„ *cinclus,*	„ *Purre,*	„ „ „ „ 112.
„ *alpina,*	„ *Dunlin,*	FLEM. Brit. An. p. 108.
„ *variabilis,*	*Dunlin or Purre,*	SELBY, Brit. Ornith. vol. ii. p. 153.
„ „	„	JENYNS, Brit. Vert. p. 209.
„ „	„ *or Purre,*	GOULD, Birds of Europe, pt. xviii.
„ „	*Bécasseau brunette,*	TEMM. Man. d'Ornith. vol. ii. p. 612.

IT will be observed by the first three pair of names here quoted, from Pennant, Montagu, and Bewick, that the Sandpiper called the Dunlin was long considered to be distinct from that called the Purre, though in reality these names referred only to the summer and winter appearance of the same bird. The changes of plumage, however, in this species became known to Montagu previous to the publication of the Supplement to his Ornithological Dictionary, and the subject has received further illustration from M. Temminck and Mr. Selby. To avoid the perplexity which had attended the double nomenclature of *Tringa alpina* and *Tringa cinclus* for one species, M. Meyer, an Ornithologist of Germany, proposed to call it *Tringa variabilis*, from the great difference observed in its plumage at different seasons of the year, and this name appears likely to gain almost universal adoption.

This species, known all round our coast by some one or more of the following names:—viz., Dunlin, Purre, (Sir Thomas Browne writes it, Churr,) Stint, Ox-bird, Sea Snipe, &c., is the most common as well as the most numerous of all the Sandpipers frequenting our shores, and may be seen there throughout the year, except for a short time at their breeding season; nor is it very often seen inland at any other period. During autumn, particularly, when the parent birds return to their marine localities and are joined by their broods of the year, immense flocks of these Dunlins may be seen busily employed close to the edge of the sea, searching and probing for the minute animals upon which they feed. They frequent sandy flats and bars that project into the sea; they are observed to be incessantly upon the move, shifting their ground perpetually, running nimbly along, or taking short flights from place to place, frequently wading to follow the aquatic insects, worms, mollusca, and the smaller thin skinned crustacea, which are put in motion by every receding wave. If disturbed, the whole flock take wing together, and wheeling along in half circles near the edge or the surface of the water, each bird exhibits alternately a dark or light appearance to the observer, as the upper or under side of its body happens to be turned towards him.

During winter many dozens are shot for the table, on various parts of the coast, and are considered to be very good eating. In the autumn of 1836, a few were sent to the London market from Lincolnshire, where they had been fatted in confinement with some Ruffs. These small birds, from abundance of nutritious food, had increased beyond their usual size, were very fat, delicately white in colour, and by the party for whom they were purchased, and by whom the birds were eaten, were said to be of excellent flavour.

Mr. Thompson says it is abundant in Ireland, and a few breed there. Mr. Macgillivray, in a communication to Mr. Audubon, says, "about the middle of April these birds betake themselves to the moors, in the northern part of Scotland, and in the larger Hebrides, where they may be found scattered in the haunts selected by the Golden Plovers, with which they are so frequently seen in company that they have obtained the name of Plover's pages. In the Hebrides, from this season until the end of August, none are to be found along the shores. The nest is a slight hollow in a dry place, having a few bits of withered heath and grass irregularly placed in it. The eggs are four in number. If, during incubation, a person approaches their retreats, the male especially, but frequently the female also, flies up to meet the intruder, settles on a tuft near him, or runs along and uses the same artifices for decoying him from the nest or young as the Plover or Ring Dotterel. Towards the end of August, the different colonies betake themselves to the sandy shores. On a large sand-ford in Harris, I have at this season seen many thousands at once, running about with extreme activity in search of food.

This place seemed a general rendezvous, and after a few weeks the host broke up and dispersed, few, if any, remaining during the winter." Of this bird in Sutherlandshire, Mr. Selby says, " we found it abundant upon the margins of all the lochs. The nest is usually placed under the shelter of some tuft or bush, removed a short distance from the usual water-line of the loch." Mr. Salmon, in reference to Orkney, says, " this little bird we found in abundance in almost every island, associating with the Snipe ; and their nests, like those of the Snipes, were placed upon the ground, among the long grass and heather, and invariably contained four eggs, which were much smaller than those of the Snipe, although similar as to colour. The birds appeared to sit very close, and suffered us to approach very near their nests before they attempted to fly ; in two instances I took them off their eggs. After they have been disturbed, they make every effort to decoy you from their nests, by pretending to be lame, &c. Both the male and female have a black patch upon their breasts ; in the former, rather darker than in the latter, otherwise we could not perceive any difference in colour between the sexes."

Mr. Dunn says, " The Dunlin is plentiful in the Shetland Isles, but that their nests are very difficult to find. I have had the bird rise from close under my feet in the breeding season, and resort to every trick to draw my attention towards itself, thereby the more plainly convincing me that the nest was close to me, and yet I have been unsuccessful in my search, so secretly do they make it. If, when only slightly wounded, the Dunlin should fall on the water it can readily raise itself and fly off."

The eggs are greenish white, blotched and spotted with two shades of dark red brown ; they measure one inch four lines and a half in length, and eleven lines and a half in breadth.

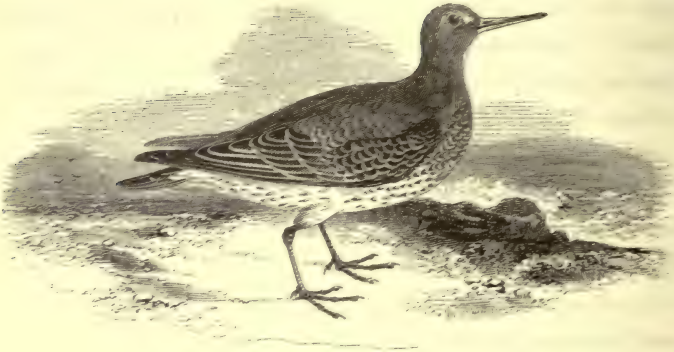
Pennant mentions having received the eggs of this bird from Denmark. Mr. Dann's notes to me are as follow:—"This bird breeds in Scona in the bogs and morasses near the coast in considerable numbers; they breed also on the south-western coast of Norway between Egersund and Stavanger, but northward to Drontheim I met with only a few stragglers. They soar during the pairing season in the air like the *Tringa platyrhynca*, but to no great height, uttering a note in some degree like that bird. In September I have seen flocks of them at Gefle on the Bothnian Gulf, but have never fallen in with them in the interior, nor met with a single specimen in any part of Lapland."

These birds go every season to the Faroe Islands, Iceland, and Greenland. Major Sabine, in his Natural History Appendix to Sir Edward Parry's first voyage, says it is rare on the coast of Davis' Strait and of Baffin's Bay, and in the islands of the Polar Sea. On the second voyage it was found breeding on Melville Peninsula. Captain James Clark Ross, in his Natural History of the last Arctic Voyage, says, "this bird was very abundant during the breeding season near Felix Harbour, building its nest in the marshes and by the sides of the lakes."

Dr. Richardson, in his Fauna Boreali Americana, says of the Dunlin, "This bird, which breeds plentifully on the Arctic coasts of America, was killed by us on the Saskatchewan plain on its passage northwards, and in autumn on the shores of Hudson's Bay." This is a well-known species in the United States, and has an extensive southern range in winter according to American ornithologists, going to Carolina and Florida, to Jamaica and other islands, to Cayenne, Vera Cruz, and Mexico.

Eastward of the British Islands the Dunlin is seen in autumn on the shores of the European Continent generally.

GRALLATORES. *SCOLOPACIDÆ.*



THE PURPLE SANDPIPER.

Tringa maritima.

Tringa maritima,	*Selninger Sandpiper,*	Penn. Brit. Zool. vol. ii. p. 80.
„ *Lincolniensis,*	*Black* „	„ „ „ 81.
„ *nigricans,*	*Purple* „	Montagu, Ornith. Dict.
„ *canutus,*	*The Knot,*	Bewick, Brit. Birds, vol. ii. p. 92.
„ *maritima,*	*Selninger Sandpiper,*	„ „ „ „ 94.
„ *striata,*	*Purple* „	Flem. Brit. An. p. 110.
„ *maritima,*	*Purple or Rock Tringa,*	Selby, Brit. Ornith. v. ii. p. 150.
„ „	„ *Sandpiper,*	Jenyns, Brit. Vert. p. 211.
„ „	„ „	Gould, Birds of Europe, pt. xix.
„ „	*Bécasseau violet,*	Temm. Man. d'Ornith. vol. ii. p. 619.

The Purple Sandpiper, though very well known in this country, is not very numerous as a species, but is found on various parts of our coast apparently preferring those which are rocky rather than extensive flats of sand. It is generally to be found from September throughout the winter till the following April or May, when the greater portion of them quit our shores, and pass in many instances to high northern latitudes for the breeding season. That some, however, do not go to any great distance, and that a few pairs may even produce their young on the British Islands, seems certain. The old birds, as in the instance of the Turnstone, are observed to be absent but a very short time from their usual haunts on the coast; young birds returning with them, or following soon after. On the Farn Islands, on one occasion, Mr. Selby met with a family of this species, the young of which were scarcely able to fly.

It is, however, more commonly considered as only a winter visiter, and is seen busily employed turning over stones and searching among sea-weed for the smaller shrimps and sandhoppers which are to be found there, and this bird feeds besides on young crabs, marine insects, and the soft bodies of animals inhabiting small shells.

It visits Ireland in winter, but is considered rare; has been killed on the coast both of North and South Wales; is more common in Cornwall, where Mr. Rodd sends me word it has been killed in summer as well as in winter. Various authorities mention it as appearing constantly in winter on the shores of Devonshire, Dorsetshire, Sussex, Kent, Essex, Norfolk, Yorkshire, and Durham. Mr. Dunn says, "The Purple Sandpiper is very numerous in Orkney and Shetland, appearing early in spring, and leaving again at the latter end of April, about which time it collects in large flocks, and may be found on the rocks at ebb-tide, watching each retiring wave, running down as the water falls back, picking small shell-fish off the stones, and displaying great activity in escaping the advancing sea. It does not breed there."

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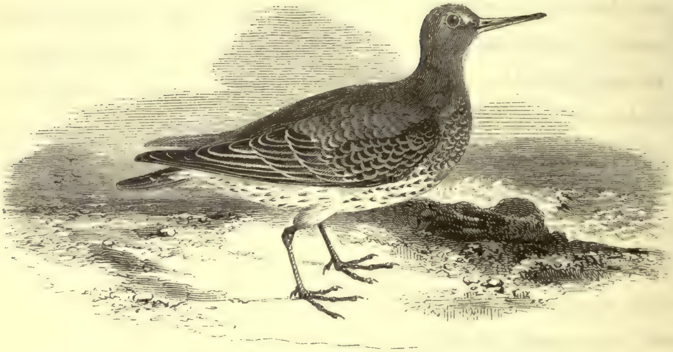
GRALLATORES. *SCOLOPACIDÆ.*



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Tringa maritima.

Tringa maritima,	*Selninger Sandpiper,*	PENN. Brit. Zool. vol. ii. p. 80.
" *Lincolniensis,*	*Black* "	" " " 81.
" *nigricans,*	*Purple* "	MONTAGU, Ornith. Dict.
" *canutus,*	*The Knot,*	BEWICK, Brit. Birds, vol. ii. p. 92.
" *maritima,*	*Selninger Sandpiper,*	" " " " 94.
" *striata,*	*Purple* "	FLEM. Brit. An. p. 110.
" *maritima,*	*Purple or Rock Tringa,*	SELBY, Brit. Ornith. v. ii. p. 150.
" "	" *Sandpiper,*	JENYNS, Brit. Vert. p. 211.
" "	" "	GOULD, Birds of Europe, pt. xix.
" "	*Bécasseau violet,*	TEMM. Man. d'Ornith. vol. ii. p. 619.

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Mr. Dann remarks, that "unlike the others of this tribe, the Purple Sandpiper does not altogether quit the Scandinavian coast in winter: as the ice accumulates and the sea freezes up, it betakes itself to the outermost range of islands and rocks with which that coast is so numerously studded, feeding among the sea-weed left bare by the slight fall of the tide, or the marine insects which it finds at the edge of the water. I have procured specimens throughout the winter on the Swedish coast, and during very severe frosts. It is perfectly fearless. During windy weather, when not feeding, it seeks shelter in the crevices of the rocks. Its plumage in winter is very thick, and the bird appears much larger than in summer."

This bird visits the Faroe islands, Iceland, Greenland, and Spitzbergen. M. K. E. Von Baer, in his description of animal life in Nova Zembla, mentions that eight species of Birds were found there, one of which is the Purple Sandpiper. On Sir Edward Parry's first voyage these birds were found abundant in Davis' Straits, and Baffin's Bay. During the second voyage they were seen on the rocks at low-water mark on Winter Island, in June. On the third voyage they were seen at Port Bowen, and on the fourth voyage they were seen abundant along the shores of Hecla Cove. Captain James Clark Ross, in reference to the last long voyage, says they were seen in considerable numbers near Fury Point. Dr. Richardson says, "this bird breeds abundantly on Melville Peninsula and the shores of Hudson's Bay. Its eggs are pyriform, sixteen lines and a half long, and an inch across at their greatest breadth. Their colour is yellowish grey, interspersed with small irregular spots of pale hair brown, crowded at the obtuse end, and rare at the other."

This species is well known to the Ornithologists of North America, where it has an extensive range.

East of the British Islands, M. Temminck says, the Purple Sandpiper is very common on the coast of Holland.

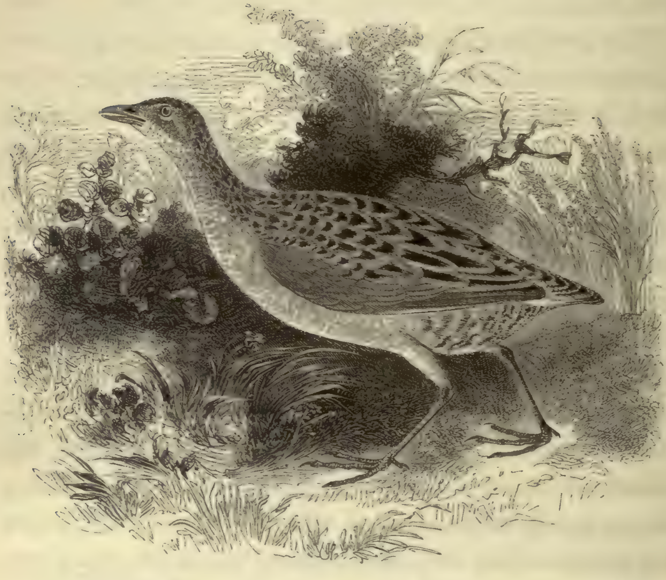
M. Vieillot says it is found in Normandy and Picardy, and it is seen in spring and autumn in Provence, Switzerland, and Italy.

The prevailing bluish lead colour of this species at once distinguishes it from every other British Sandpiper. The beak is dark reddish brown; the irides hazel; the adult male bird, in its summer plumage, has the head and neck all round dusky grey, streaked with darker grey; back, scapulars, and tertials, bluish black, some of the feathers margined with white, others with reddish buff; wing-coverts dove grey, with lighter coloured margins; primaries dusky black, the shafts white, the outer narrow web of each feather darker than the broader inner web; secondaries tipped with white; upper tail-coverts almost black; middle tail-feathers brownish black, long and pointed, the others ash brown with lighter coloured edges; chin white; breast nearly white, spotted with grey: vent, and under tail-coverts white, with an occasional streak of grey; legs and toes dark reddish brown, the hind toe directed inwards; the claws black.

The whole length eight inches and a half. From the carpal joint of the wing to the end of the first quill-feather, which is the longest, five inches. The females are rather larger than males.

A bird killed in November, has the head, neck, back, and upper tail-coverts, uniform lead grey; the wing-coverts and tertials only with greyish white edges; the under surface changing from bluish grey to white. In another specimen killed later in the year, the breast and all the under parts are nearly white, with a few spots of grey.

GRALLATORES. *RALLIDÆ.*



THE LANDRAIL,

OR CORN CRAKE.

Crex pratensis.

Gallinula	*crex,*	*Crake Gallinule,*	Penn. Brit. Zool. vol. ii. p. 119.
Rallus,	,,	,, ,,	Montagu, Ornith. Dict.
Gallinula	,,	*Corn Crake,*	Bewick, Brit. Birds, vol. ii. p. 138.
Ortygometra	,,	,, ,,	Flem. Brit. An. p. 98.
Crex	*pratensis,*	*Meadow* ,,	Selby, Brit. Ornith. vol. ii. p. 176.
,,	,,	*Corn* ,,	Jenyns, Brit. Vert. p. 217.
Gallinula	*crex,*	*Landrail*	Gould, Birds of Europe, pt. i.
,,	,,	*Poule d'eau de Genet,*	Temm. Man. d'Ornith. vol. ii. p. 686.

Crex. *Generic Characters.*—Bill shorter than the head, thick at the base, subcultrated, compressed ; the culmen gradually deflecting from the forehead to the point of the bill ; lateral furrow of the upper mandible broad, and occupying more than half its length ; angle of the under mandible bending upwards ; both mandibles of an equal length. Nostrils concave, lateral, linear, ovoid, pierced in a membrane occupying the mandibular furrow in the middle of the bill. Wings armed with a spine, and having the second and third quill-feather the longest. Legs strong, of mean length, with the lower part of the tibiæ naked. Feet four-toed, three before, one behind. Toes long, slender, and cleft to their base, without any lateral membrane ; hind toe resting almost wholly on the ground. Claws arcuate, compressed, and sharp-pointed.—*Selby.*

The Landrail is a summer visiter to this country, generally making its appearance in the southern counties during the last ten days of April ; but in Yorkshire, and still farther north, as mentioned by Mr. Selby and others, it is seldom observed or heard till the second week in May. It frequents the long grass of marshy water-meadows near rivers, beds of osiers or reeds, and fields of green corn, where its presence is indicated by its creaking note ; and hence one of its names, that of Corn Crake, or Corn Creak, by which latter term it is also known in Ireland. This call-note may be imitated by passing the edge of the thumb-nail, or a piece of wood, briskly along the line of the points of the teeth of a small comb ; and so similar is the sound, that the bird may be decoyed by it within a very short distance. The male bird is the caller, and he continues the note until a mate be found and incubation commenced ; after which he is less frequently heard. A Landrail, kept some time in confinement, uttered besides a low guttural sound when alarmed or disturbed. Pennant mentions, that Landrails were plentiful in Anglesey about the third week in April, and the birds were supposed to pass from thence to Ireland ; it was common to kill seven or eight in a morning. Mr. Selby mentions, also, that he has killed eight or ten in the course of an hour, in a single field, in the rich meadows upon the banks of the Trent, below Newark ; a favourite locality, which is annually visited by great numbers of Crakes.

The food of the Landrail consists of worms, slugs, snails, small lizards and insects, with portions of vegetable matter and a few seeds. The nest is formed on the ground, of dry plants; and a field of thick grass, clover, or green corn, is generally the situation chosen: the eggs, from seven to ten in number, are produced in the middle of June; they are of a pale reddish white, spotted and speckled with ash grey and pale red brown; one inch six lines in length, by one inch and one line in breadth. Daniels says, that in 1808, as some men were mowing grass upon a little island belonging to the fishing water of Low Bells on Tweed, they cut the head from a Corn Crake, that was sitting upon eleven eggs: about twenty yards from this spot, they had nearly destroyed a Partridge in a similar way, which was sitting upon eighteen eggs; but, observing her, the mowers took the eggs from the nest of the Corn Crake, and put them into that of the Partridge. Two days after she brought out the whole brood, which were seen running about the island. The Partridge catered for them all, and was observed to gather her numerous family under her wings without any distinction. Young Landrails are at first covered with black down, but soon acquire their first feathers, and, according to Mr. Selby's observation, are able to fly in about six weeks.

During the early part of the Partridge shooting-season in this country, many Landrails are killed by sportsmen, who, after the barley is cut, find them most frequently in seed clover. This bird does not take wing very readily, and flies but slowly, with its legs hanging down, seldom going farther than the nearest hedge, or other covert, in which it can hide itself; and is rarely flushed a second time. Landrails are considered most delicate as articles of food, and in such high estimation, that two Landrails are said to be a present for a queen. Drayton, of old, highly valued the Rayle, which, he says, "seldom comes but upon rich men's spits." The usual weight of a Landrail is about six ounces; but I have seen one instance, and heard of another, in which this bird weighed eight ounces and a half. Pennant mentions one that weighed eight ounces.

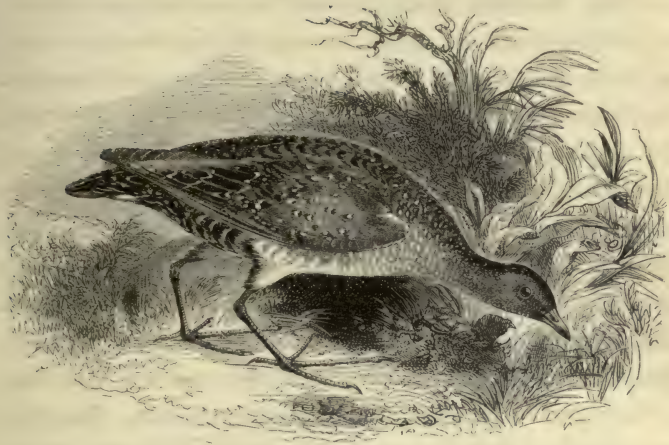
Mr. Jesse, in his remarks on this bird, says, "I have met with an incident in the Natural History of the Corn Crake which I believe is perfectly accurate, having been informed that the bird will put on the semblance of death when exposed to danger from which it is unable to escape. The incident was this: — A gentleman had a Corn Crake brought to him by his dog, to all appearance quite dead. As it lay on the ground, he turned it over with his foot, and felt convinced that it was dead. Standing by, however, in silence, he suddenly saw it open an eye. He then took it up; its head fell; its legs hung loose, and it appeared again quite dead. He then put it in his pocket, and before long he felt it all alive, and struggling to escape. He then took it out; it was as lifeless as before. Having laid it again upon the ground and retired to some distance, the bird in about five minutes warily raised its head, looked round, and decamped at full speed. I have seen a similar circumstance take place with a Partridge, and it is well-known that many insects will practise the same deception. They probably congregate before they migrate, as I am assured that a considerable number were, on one occasion, seen together near the sea-shore in the neighbourhood of Swansea, about the time they usually take their departure from this country."

The Rev. Robert Holdsworth wrote me word that he has been at the killing of thirteen couple in one day, in Devonshire, in the month of September. Some years since, two sportsmen while partridge-shooting during the third week of September, in the neighbourhood of Battle, only a few miles from the coast in Sussex, killed fifteen couple of Landrails in one day, and seven couple the next day.

These birds usually leave this country early in October, but one was killed near London in the month of December 1834; one near Yarmouth in January 1836: one is recorded to have been killed in Ireland in January 1839.

The Landrail is common in valleys near rivers in Scotland, and abundant in Orkney and Shetland. It also visits Denmark, Sweden, and Norway, going as far north as the Faroe Islands and Iceland. It is abundant, as might be expected, over the European Continent; and Mr. Strickland saw it at Smyrna in winter. Dr. Heineken includes the Landrail among the birds of Madeira; Mr. Wild mentions having seen it at Algiers, and it visits Malta and Sicily on its way northward in spring.

The beak is pale brown; the irides hazel; over the eye and ear-coverts, and on the cheeks, ash grey; the head and neck all round, the back, scapulars, and tertials, pale yellowish brown, each feather having an elongated central streak of very dark brown; tail-coverts and tail-feathers the same; wings and wing-coverts rich reddish chestnut; quills brown, tinged with red; breast, belly, flanks, and under tail-coverts pale buff, barred transversely on the sides and flanks with darker reddish brown; legs, toes, and claws, pale yellowish brown. The whole length rather less than ten inches. From the carpal joint to the end of the longest feather in the wing, five inches four lines. Females are rather smaller than males, and, as well as young birds of the year, have the ash grey on the sides of the head less distinct and pure, and the chestnut colour of the wing mixed with darker reddish brown.



THE SPOTTED CRAKE.

Crex porzana.

Gallinula	*porzana,*	*Spotted*	*Gallinule,*	Penn. Brit. Zool. vol. ii. p. 117.
Rallus	,,	,,	*Water Hen,*	Montagu, Ornith. Dict.
Gallinula	,,	,,	*Gallinule,*	Bewick, Brit. Birds, vol. ii. p. 140.
,,	,,	,,	,,	Flem. Brit. An. p. 99.
Crex	,,	,,	*Crake,*	Selby, Brit. Ornith. vol. ii. p. 179.
,,	,,	,,	,,	Jenyns, Brit. An. p. 218.
Zapornia	,,	,,	,,	Gould, Birds of Europe, pt. xvi.
Gallinula	,,	*Poule d'eau Marouette,*		Temm. Man. d'Ornith. vol. ii. p. 688.

This prettily marked bird is, like the Landrail last described, a summer visiter to this country, which Montagu mentions having seen as early as the 14th of March, and as late as the 23rd of October. Mr. Blyth has recorded one instance in which a single specimen was seen by himself in the London market in the month of January 1834, and I have notes of three that were killed in November 1841, one of them at Dagenham. Compared with the Landrail, however, this Spotted Rail is much less numerous as a species, and more aquatic in its habits; frequenting the sides of streams and lakes which are covered with thick reeds or rushes, among which it conceals itself, and from the security afforded by the dense and luxuriant vegetation of marshy grounds it is seldom moved without the assistance of a good dog, accustomed to them and their haunts. In all these Rails the bodies of the birds are compressed, by which they are enabled to make their way through dense herbage with facility; their toes are also long in proportion to the size of the bird, affording them a firm footing, over mud or weeds, from the extent of surface they cover, and enabling them also to swim with ease.

In Ireland it is an occasional summer visiter. Mr. Dillwyn has mentioned three or four occurrences in Wales. In England it is more frequently in the maritime counties than in others; and its appearance has been recorded in Cornwall, Devonshire, Dorsetshire, Hampshire, and, in fact, round the southern, and up the eastern coast, as high as Durham and Northumberland. The Rev. Leonard Jenyns mentions that this species has been met with in the fens of Cambridgeshire by the middle of March; and Mr. Borrer, Jun. has noticed several occurrences in the same county in autumn. The authors of the catalogue of Norfolk and Suffolk Birds say, "there can be no doubt that the Spotted Gallinule breeds in the marshes of Norfolk. We have seen a considerable number of its eggs at Yarmouth, which, as well as its young, were found in the neighbourhood of that place. We are also in possession of an egg taken from a female of this species which was killed in the marshes below Norwich."

These birds probably breed in several other parts of England, where they can find suitable localities; and are in consequence, more frequently obtained in autumn than at any other season. Mr. Selby mentions, that, by the aid of a dog accustomed to pursue these birds, he has, just previous to their departure in autumn, sometimes flushed as many as six in a large morass in his neighbourhood in Northumberland, the majority of which were young birds of the year.

Mr. Heysham has also recorded the occurrence of this bird in autumn, on several occasions, on the western side of Cumberland. Montagu mentions, that in his time the Spotted Crake had not been noticed farther north than Cumberland: Mr. Selby has since found it in various parts of Scotland, and T. M. Grant, Esq. of Edinburgh, sent me word that he has a specimen of the Spotted Gallinule in his collection that was shot in Forfarshire, in October 1832. The food of this species consists of worms, aquatic insects, and slugs, with some soft vegetable substances. One bird, kept by Montagu in confinement, fed on worms, and bread and milk.

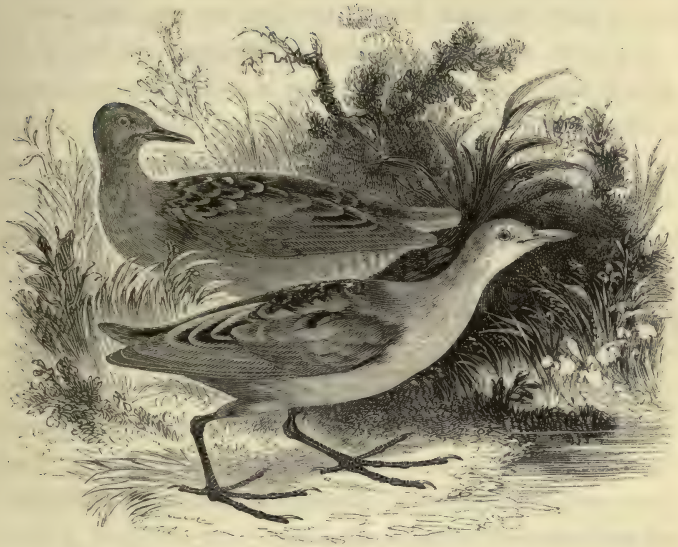
These birds breed in marshes that are overgrown with reeds and sedges; their nest, built on the wet ground, very frequently at the water's edge, is formed of coarse aquatic plants, lined with finer materials within. Eight or ten eggs are deposited, which are of a pale reddish white, spotted and speckled with dark reddish brown; they measure one inch three lines in length, by eleven lines in breadth. The young are at first covered with black down, and are said to take to the water very soon after they are hatched. In the autumn these birds are considered to be in the best condition for the table, and as an article of food are in great estimation, particularly in France. The flesh is said to be of a fine and delicate flavour.

M. Nilsson says, the Spotted Rail occasionally visits

Sweden in summer, but that it is rare. Pennant says it is found in the southern parts of Russia. It is rare in the north of Germany and in Holland; more common in France and Provence, and thence to the Mediterranean. It is found in Corfu, Sicily, and Crete during summer, and at Malta, on its passage in spring and autumn. Mr. Drummond observed it at Tunis and Biserta. Mr. Strickland saw it at Smyrna in winter.

The beak yellowish brown, tinged with reddish brown at the base; the irides dark brown; top of the head dark brownish black; cheeks, sides and back of the neck olive-brown, spotted with white; back dark olive-brown, each feather black in the centre, and streaked longitudinally with some narrow lines of white; rump, upper tail-coverts, and tail-feathers black in the middle, margined with clove-brown, and spotted with white; wing-coverts olive-brown, spotted with white; quill-feathers very dark brown; tertials transversely streaked with narrow lines of white; chin, neck, and breast dark brown, spotted with white; belly, vent, and under tail-coverts buffy white; sides and flanks lead-grey, barred with white; legs and toes greenish yellow; the claws brown.

Mr. Selby's description of the young is as follows: upper parts of a deep oil-green, the white dispersed in the form of small spots; eyebrows deep grey, with numerous white specks; cheeks, chin, and throat greyish white, with a few darker specks; lower part of the neck and the breast oil-green, tinged with grey, and with small spots of white; belly and abdomen greyish white; quills deep hair-brown; legs deep oil-green, tinged with grey; bill dirty saffron-yellow at the base, the tip brown. The whole length of an adult bird about nine inches. From the carpal joint to the end of the longest quill-feather four inches and a half.



THE LITTLE CRAKE,

OR OLIVACEOUS GALLINULE.

Crex pusilla.

Gallinula	*minuta,*	*Little Gallinule,*	Mont. Supp. Ornith. Dict.
,,	*Foljambei,*	*Olivaceous* ,,	,, Appendix to Supp.
,,	*minuta,*	*Little* ,,	Bewick, Brit. Birds, vol. ii. p. 142.
,,	*Foljambei,*	*Olivaceous* ,,	,, ,, ,, ,, p. 144.
,,	*pusilla,*	*Little* ,,	Flem. Brit. An. p. 99.
,,	*Foljambei,*	*Olivaceous* ,,	,, ,, ,, ,,
Crex	*pusilla,*	*Little Crake,*	Selby, Brit. Ornith. vol. ii. p. 185.
,,	,,	,, ,,	Jenyns, Brit. Vert. p. 219.
Zapornia	,,	,, ,,	Gould, Birds of Europe, pt. x.
Gallinula	,,	*Poule d'eau Poussin,*	Temm. Man. d'Ornith. vol. ii. p. 690.

The first example of this species made known in this country, was shot near Ashburton in Devonshire, in 1809, and Colonel Montagu received it from Mr. Tucker. This bird, figured and described in Montagu's Supplement to his Ornithological Dictionary, under the name of Little Gallinule, appears to be a female, but the sex was not noted.

The next specimen, recorded by Montagu, is Mr. Foljambe's bird, obtained in the shop of a London poulterer, in May 1812; this is also figured and described in the Appendix to his Supplement, and is considered to be an old male. This example was received from Norfolk. About the same time Mr. Plasted, of Chelsea, obtained another which was shot on the banks of the Thames, near that place. At the sale of Mr. Plasted's birds, this specimen passed into the possession of Mr. Leadbeater, and is now, I believe, in the collection of Mr. Lombe, who resides near Norwich. This bird, which I saw several times while it belonged to Mr. Leadbeater, agreed with the figure and description of Montagu's Olivaceous Gallinule, and was believed to be an old male.

An extract from the Minute-book of the Linnean Society, dated November 4th, 1823, is thus inserted in the fourteenth volume of the Transactions of that Society, page 583. "In a letter from W. Fothergill, Esq., of Carr-end, near Arkrigg, in Yorkshire, it is stated that the *Rallus pusillus* of Gmelin, *Gallinula minuta* of Montagu, and *G. pusilla* of Temminck, was shot on the 6th of May 1807, by John Humphrey, Esq., of Wensley, on the banks of the Yore, near that place. It was alone, and suffered itself to be approached very near, without betraying any sense of danger. It ran with great rapidity, carrying its tail erect."

In March 1826, a female of this species was caught at Barnwell near Cambridge, which is now in the collection of Dr. Thackeray, the Provost of King's College; and the figure of the bird in the front of the illustration here given, as also the description, were taken from this bird, which was most kindly lent me for my use in this work.

In the volume of the Magazine of Natural History for the year 1829, page 275, it is mentioned that Mr. James Hall caught a specimen of the Olivaceous Gallinule, *G. pusilla*, alive in a drain in Ardwick meadows, near Manchester, in the autumn of 1807. In the same work, but for the year 1834, page 53, the late Mr. Hoy has recorded that a Little Gallinule was shot near Yarmouth. Mr. W. Borrer, jun., sent me notice that a Little Crake, *Crex pusilla*, was taken alive on the banks of the Adur, at Breeding chalk-pit near Shoreham, in October 1835 ; and in 1836 Mr. W. C. Williamson recorded, in the printed Proceedings of the Zoological Society, that an Olivaceous Gallinule had been killed near Scarborough.

Other examples have no doubt been killed in various parts of England, but it must be considered a rare bird, and, perhaps, is not always clearly distinguished from the species next to be described. In its food and general habits this Olivaceous Crake very closely resembles the Spotted and other Crakes, but is occasionally seen on the higher and more cultivated soils. Montagu truly observes, that the habits of the smaller species of Gallinules are their principal security ; they are not only equally capable of diving and concealing their bodies under water, with only the bill above the surface to secure respiration, but run with celerity and hide themselves amongst the rushes and flags of swampy places, and are with great difficulty roused even with the assistance of dogs, depending more on concealment in thick cover, than upon their wings, to avoid danger. From these circumstances it is, that they are so rarely obtained. This bird forms a nest of aquatic plants among rushes, laying seven or eight eggs of a light olive-brown colour, spotted with darker brown; the length one inch two lines, by nine lines and a half in breadth; the form of the egg oval.

M. Temminck says this species is only found accidentally in Holland, but is more common in Germany and in France, particularly in the central and southern parts. M. Vieillot, in his History of the Birds of France, says it is found in the rice-fields of Piedmont, and in the Pyrenees; and was found also by M. Baillon in the marshes of Picardy. It is common in Italy, and the eastern parts of Europe. It is found at Corfu, Sicily and Crete, but not in great numbers; it is, however, abundant at Malta in spring, when on its passage northward, but is rare in autumn, as though returning by some other route, which is not uncommon with some birds of passage. Messrs. Dickson and Ross, corresponding members of, and liberal donors to, the Zoological Society, obtained two specimens at Erzeroom, in boggy ground near the river; one in April, and the second in May, of the year 1839.

B. Hodgson, Esq., includes it in his catalogue of the Birds of Nepal.

M. Temminck says that specimens from Japan do not differ from those killed in Europe.

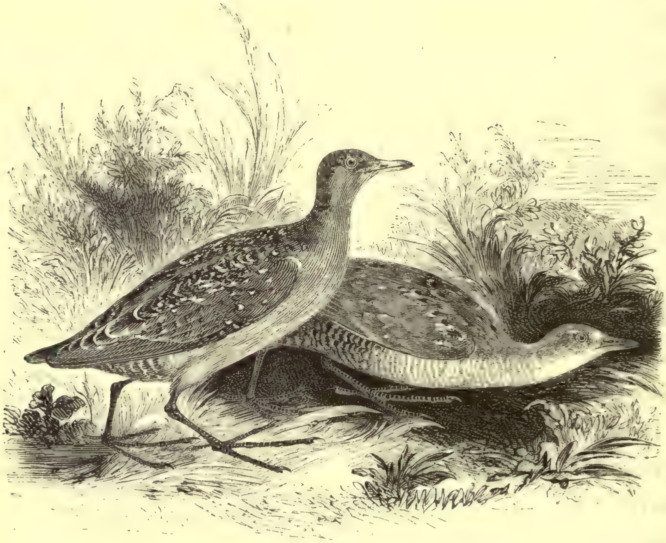
In the adult male the beak is green, but red at the base; the irides red; top of the head, back of the neck, and upper surface of the body generally, olive brown; the centre of the back almost black, with a very few white marks, but no white marks on the wing-coverts or quill-feathers; the primaries dark clove brown; the tertials dark brownish black in the centre, with broad olivaceous margins; upper tail-coverts and tail-feathers dark brown; the chin greyish white; sides of the head, the neck in front, the breast and belly, uniform slate grey; the feathers of the flanks dark brown; those of the thighs, vent, and the under tail-coverts slate-grey, spotted with white; legs and toes green.

The whole length about seven inches. From the carpal joint to the end of the wing four inches and one eighth; the second and third quill-feathers nearly equal in length, and longer than the first.

The female has the beak, irides, and legs, like the male; round the eye pearl-grey; top of the head, sides and back of the neck, pale brown; middle of the back nearly black, with only two or three small spots of white; scapulars brown, with one or two spots of white; the wing-coverts and tertials dark in the centre, with broad edges of pale brown, the inner margins lighter in colour than the outer; primaries dusky brown; no white spots on the wing-coverts or quill-feathers; rump, tail-feathers, and upper tail-coverts, dark brown; the chin white; the neck in front, breast and belly, delicate buff colour; flanks and under tail-coverts greyish brown, with white spots forming bands.

The chicks are at first covered with black down; the beak green; afterwards the young of both sexes, for a time, resemble the adult female.

GRALLATORES. *RALLIDÆ.*



BAILLON'S CRAKE.

Crex Baillonii.

Crex	*Baillonii,*	*Baillon's Crake,*	SELBY, Brit. Ornith. vol. ii. p. 182.
"	"	" "	JENYNS, Brit. Vert. p. 219.
Zapornia	"	" "	GOULD, Birds of Europe, pt. ix.
Gallinula	"	*Poule d'eau Baillon,*	TEMM. Man. d'Ornith. vol. ii. p. 692.

ONE of the earliest notices of the occurrence of this bird with which I am acquainted, is published in the second volume of the Zoological Journal, page 279, on the exhibition of a specimen at the Zoological Club of the Linnean Society, which belonged to Dr. Thackeray, the Provost of King's College, Cambridge, and which was caught upon some ice at Melbourne, about nine miles south of Cambridge, in January 1823. "To this spot, originally fen land, the poor bird had resorted, in an inclement season, to obtain a meal; but, having wandered far from its native and more congenial latitude, was so exhausted by want of food, or the low temperature of the season, or the combined effects of both, as to allow itself to be taken alive by the hand." In the third volume of the same Journal, page 493, G. T. Fox, Esq., of Durham, has recorded another specimen of this bird, which was killed within three miles of Derby, in November 1821. In the catalogue of the Birds of Norfolk and Suffolk, published in the fifteenth volume of the Transactions of the Linnæan Society, the authors, in reference to Baillon's Crake, say, "We have met with a specimen of this bird in the collection of Mr. Crickmore, of Beccles, which was shot near that town. The throat, neck, and belly are ash colour; the sides and under tail-coverts barred and spotted with black and white; the back is like that of the Spotted Gallinule; but this bird is considerably smaller than that species. An extremely small Gallinule, probably of this same kind, was shot at Nacton in Suffolk, many years since, and was in the possession of the late John Vernon, Esq."

The Rev. Richard Lubbock wrote me from Norfolk as follows:—"On the 2nd of April 1833, a fen-man of my acquaintance killed an adult male of this species, upon a marsh at Dilham in this county; it is now in my possession. Three years previously he had killed another at Barton, the adjoining parish; it was late in autumn, and the bird was in immature plumage. This species is probably not so rare as it is supposed to be; when shooting in parts of France and Switzerland, where it is not uncommon, I could never manage to get more than one specimen, its power of running, skulking, and general concealment is so great." In September 1840, Francis Edwards, Esq. of Brislington, near Bristol, sent me word that an adult female of this species had been killed a short time before, on some marshy ground near Weston-supermare, a small watering-place on the British Channel. This specimen Mr. Edwards was kind enough to send up for my use; and the description and measurements, to be hereafter given, were taken from that bird. In its habits, food, and nesting, this species resembles that last described, laying seven or eight oval-shaped eggs very similar in colour, markings, size, and shape to that of *Crex pusilla.*

Mr. Selby says, it is well known in the neighbourhood of Boulogne, on the opposite coast, where it annually breeds in the marshes; it is found besides in several provinces of France. M. Baillon has found it in the marshes of Picardy; it is seen occasionally in Switzerland, at Genoa, and throughout Italy. Mr. Joseph Clarke sent me word he had seen specimens from Africa; and Dr. A. Smith brought examples in his collection formed at the Cape, and in southern Africa. It is rare in Sicily, but abundant in Algeria. It has been obtained in Nepal and about Calcutta. M. Temminck says that skins sent from Japan do not differ from those obtained in Europe.

In the adult male the beak is green, the base red; irides red; top of the head, and back of the neck, clove-brown; centre of the back, and the scapulars, black, with numerous spots and streaks of pure white; wing-coverts and tertials clove-brown, spotted and streaked with pure white; primaries dark brown, the outer web of the first quill-feather edged with white; upper tail-coverts and tail-feathers clove-brown; throat, cheeks, sides, and front of the neck, breast and belly, uniform lead-grey; vent and under tail-coverts the same, but tipped with white; legs and toes flesh colour.

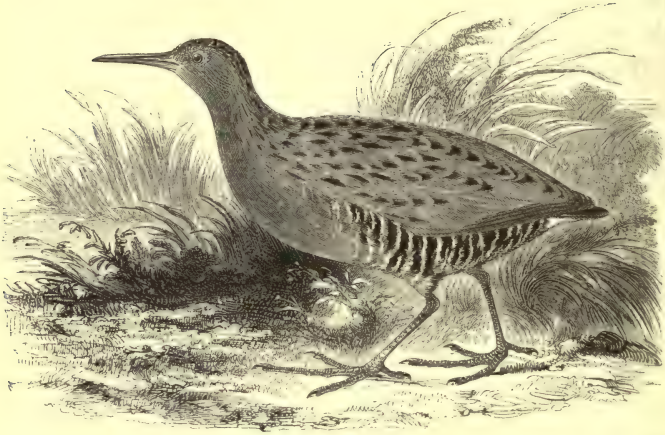
The female has both mandibles green at the point, pale reddish brown at the base; irides crimson-red; neither the black colour on the centre of the back, or on the scapulars, or the white spots upon the black, are so pure in colour as the same parts in the males; nor are the white spots so numerous; the chin white; legs, toes, and claws, in the preserved specimen pale brown; all the other parts as in the adult male.

The whole length six inches and a half. From the carpal joint to the end of the wing four inches; the first and the sixth quill-feathers equal in length, and shorter than the fourth or the fifth; the second and third feathers equal in length, and the longest in the wing: the length of the tarsus one inch and one eighth; the length of the middle toe and claw one inch and five-eighths.

The young male belonging to Dr. Thackeray, the use of which has been allowed me for this work, and which was killed in the month of January, is to all appearance a bird of the previous season, not having quite attained the mature plumage, the chin being still greyish white, and the lead-grey colour of the front of the neck, breast, and belly being varied with patches of pale buffy brown and bars of greyish white. In still younger birds, before their first autumn moult, the neck, breast, and under parts are pale buffy white mixed with light brown.

There is reason to suspect that the Little Crake and Baillon's Crake have been sometimes confounded. As particular marks of distinction, it may be mentioned, that the Little Crake exhibits but a few white marks on the centre of the back, and sometimes on the scapulars, but never on the wing-coverts; in Baillon's Crake, on the contrary, these white marks are very numerous, occupying several distinct situations, namely, the central space on the back, the scapulars, wing-coverts, and tertial feathers on both sides.

GRALLATORES. *RALLIDÆ.*



THE WATER RAIL.

Rallus aquaticus.

Rallus aquaticus,	*Water Rail,*	Penn. Brit. Zool. vol. ii. p. 114.
" "	" "	Montagu, Ornith. Dict.
" "	" "	Bewick, Brit. Birds, vol. ii. p. 134.
" "	" "	Flem. Brit. An. p. 98.
" "	*Common* "	Selby, Brit. Ornith. vol. ii. p. 172.
" "	*Water* "	Jenyns, Brit. Vert. p. 217.
" "	" "	Gould, Birds of Europe, pt. iv.
" "	*Rale d'eau,*	Temm. Man. d'Ornith. vol. ii. p. 683.

Rallus. *Generic Characters.*—Beak longer than the head, slender, slightly curved downwards, compressed at the base, cylindrical at the point; upper mandible grooved at the sides. Nostrils lateral, pierced longitudinally in the lateral groove, partly covered by a membrane. Legs long and strong, with a small naked space above the joint; three toes before, and one behind; the anterior toes divided to their origin, the hind toe articulated upon the tarsus. Wings moderate, rounded; the first quill-feather much shorter than the second, the third and fourth quill-feathers the longest in the wing.

The Water Rail, though well known as a species, is not very abundant here: while the habits of the bird, and the nature of the localities it frequents, increase the difficulty of observation. It is found in the marshy districts of this country, and delights to dwell among the rank vegetation of fens, shallow pools, and water-courses, from which it can scarcely be driven to take wing. If obliged to fly, to save itself from being caught by an eager dog in close pursuit, its progress through the air is slow, with the legs hanging down; and it drops again in the nearest bed of reeds, flags, or rushes, that is likely, from its size or density, to afford sufficient security. The compressed form of its body enables it to pass easily through the thickest herbage; while its lengthened toes assist it to swim, and even to dive when necessary for its safety.

Dr. Fleming, in his paper on the Natural History of our Water Rail, published in the Wernerian Memoirs, says, "This species is a native of the Old World. It was first noticed as an English bird by Merret; and, as a native of Scotland, by Pennant. Sibbald, indeed, in his *Scotia Illustrata*, enumerates the *Rallus aquaticus* among our northern birds; but the description which he subjoins obviously belongs to the Common Gallinule. On the continent of Europe it is considered as a summer bird of passage, and has been observed crossing the Mediterranean Sea in the spring, going northwards, and in autumn retiring southwards."

Buffon says that a flight of Water Rails were seen at the distance of fifty leagues from the coast of Portugal in the middle of April, some of which were so fatigued that they allowed themselves to be taken by the hand. The Rev. Robert Holdsworth wrote me word that a bird of this species alighted on the yard of a man-of-war, about five hundred miles to the westward of Cape Clear, and at the same distance from any known land. An officer of the ship caught it, and took care of it, and carried it with him to Lisbon, feeding it with bits of raw meat. In a day or two it became perfectly tame, and would eat out of his hand.

The food of this species is worms, snails, slugs, with some vegetables. Dr. Fleming mentions having seen the stomach of one that was filled exclusively with the young snails of *Helix lucida*. One of these birds, which Mr. Selby kept for some time, was fed entirely with earthworms, upon which it continued to thrive, till an accident put an end to its life. It refused bread and the larger kinds of grain. In confinement this bird is observed to jerk its tail up while walking, like the Common Moor-hen; and I have heard of one that had so far conquered its timidity as to have become pugnacious.

Mr. Paget says the Water Rail is common in the marshes of Norfolk; and Montagu observes, that "the nest is rarely found; it is made of sedge and coarse grass, amongst the thickest aquatic plants; sometimes in willow beds. In such a situation we found one with six eggs, of a spotless white, and very smooth, rather larger than those of a Blackbird; the shape a short oval, with both ends nearly alike." I have found the eggs of the Water Rail very difficult to obtain, and never possessed but two, one from Norfolk, and one from Cambridgeshire, and never saw more than three or four others; these were all very much alike, of a cream-coloured white, with small specks of ash-grey and reddish brown; the length of the egg one inch four lines, by one inch in breadth. The egg is very correctly figured by Mr. Hewitson in his work.

M. Nilsson says the Water Rail is rare in Sweden; but it annually visits also Norway, the Faroe Islands, and Iceland. In these countries, of course, it is only a summer visiter, as in the winter all the usual places of resort for food would be frozen up. In our own country the greater portion probably remain all the year; in proof of which it has been killed three times in winter in Scotland, and several times in Sussex, Kent and Oxfordshire.

The Water Rail is abundant in Holland, Germany, France, Switzerland, Provence, Spain, and Italy. At Genoa it is said to be seen only when on its passage in April and September. It is found at Corfu and in Sicily, it visits Malta in spring, and has been seen at Tunis and Biserta. Mr. Strickland saw it at Smyrna; and M. Menetries includes it among the birds seen by the naturalists of the Russian expedition in the country of the Caucasus.

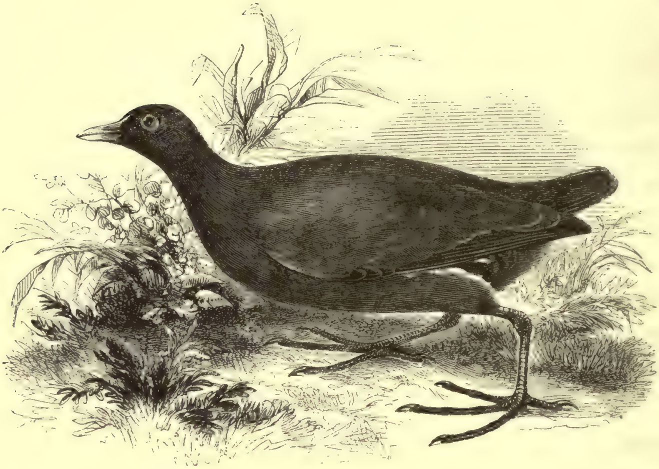
The beak of the adult male is red, one inch and three-quarters in length; the irides hazel; top of the head, neck, back, wing-coverts, and upper surface of the body generally olive-brown; each feather nearly black in the centre, with broad margins; primaries dusky; tail-feathers also dusky, with olive-brown margins; cheeks, chin, sides and front of the neck, and the breast, lead-grey; the sides and flanks dark slate-grey barred with white; vent buff colour; under tail-coverts dull white; legs and toes brownish flesh colour. The whole length eleven inches and a half. From the carpal joint to the end of the wing four inches and three-quarters.

The sexes do not differ in plumage, but the beak of the female is shorter than that of the male, and not so red.

Young birds have the feathers of the neck and breast edged with pale brown, forming transverse bars; the flanks and thighs not so dark in colour, and without the white bands.

A variety of the Water Rail has been taken which was pure white.

GRALLATORES. *RALLIDÆ.*



THE MOOR-HEN.

Gallinula chloropus.

Gallinula	*chloropus,*	*Common*	*Gallinule,*	PENN. Brit. Zool. vol. ii. p. 121.
Fulica	,,	,,	,,	MONTAGU, Ornith. Dict.
Gallinula	,,	,,	,,	BEWICK, Brit. Birds, vol. ii. p. 145.
,,	,,	,,	,,	FLEM. Brit. An. p. 99.
,,	,,	,,	,,	SELBY, Brit. Ornith. vol. ii. p. 188.
,,	,,	,,	,,	JENYNS, Brit. Vert p. 220.
,,	,,	,,	,,	GOULD, Birds of Europe, pt. xiv.
,,	,,	*Poule d'eau ordinaire,*		TEMM. Man. d'Ornith. vol. ii. p. 693.

GALLINULA. *Generic Characters.*—Bill thick at the base, compressed, slightly swollen towards the tip, subconic, as short as the head. Upper mandible convex, with the culmen extended and dilated, forming a naked frontal plate or shield; lateral furrow wide; mandibles of nearly equal length; angle of the lower one ascending. Tomia of the under mandible slightly intracted, and covered by the upper. Nostrils lateral, pervious, pierced in the membrane of the furrow in the middle of the bill; longitudinal and linear. Legs strong, of mean length, naked for a short space above the tarsal joint; front of the tarsus scutellated; hinder part reticulated; feet four-toed, three before and one behind; toes long, divided, and bordered through their whole length by a narrow entire membrane. Wings armed with a small, sharp, recumbent spine. Plumage soft, and thick, but loose in texture; body compressed at the sides.—*Selby.*

The Moor-hen is one of those well-known, half domesticated species which afford interesting opportunities for observations on habits. Dr. William Turner, who wrote on British Birds three hundred years ago, calls this bird a Water-hen, or a Mot-hen; and Pennant says, that in the days of moated houses they were very frequent about the moats. They are found also on ponds which are covered with aquatic herbage, old water-courses grown up with vegetation, and among the rushes, reeds, and willows of slow rivers. They can swim and dive with great facility, assisted by an expansion of the membrane along the sides of their toes; a structure by which they are connected to the fin-toed aquatic birds, the descriptions of which will immediately follow. Moor-hens are commonly to be seen on the surface of the water, swimming along with a nodding motion of the head, picking up vegetable substances, first on one side, then on the other, and feeding generally on aquatic plants, small fishes, insects, worms, and slugs, for some of which they may be seen early in the morning, and again in the evening, walking over meadows near their haunts, diligently searching among the grass, particularly after a shower of rain in summer; jerking up their tails as they walk along, and showing the white under tail-coverts. Mr. Selby mentions that he has several times known this bird to have been taken on a line baited with an earth-worm, intended for catching eels and trout; and infers, therefore, that it is by diving they obtain the larger coleopterous water insects, aquatic worms, and the larvæ of dragon-flies, upon which they are known to feed.

When suddenly disturbed, they will sometimes take a short flight, with their legs hanging down, and will occasionally perch in a tree; they are, however, capable of more extended exertion on the wing, but appear to prefer the security afforded by thick rushes.

Shenstone refers to the hidling habits of the Coot and Moor-hen in the following lines:—

> ———" to lurk the lake beside
> Where Coots in rushy dingles hide,
> And Moorcocks shun the day."

The nest is generally placed among reeds on the ground; sometimes among stumps, roots, or long grass, on a bank at the edge of the water; and the bird has been known to fix its nest on a branch of a tree which rested upon the surface of deep still water. The editor of the Naturalist mentions an instance where, "the nest of a Moor-hen floated on the water without having any attachment whatever with the islet which it adjoined; but was enclosed on all sides by sticks, &c. Thus situated, the careful parents hatched their eggs in perfect safety; though, had the water risen to an unusual height, the case might have been otherwise.

Rusticus of Godalming, in the fifth volume of the Magazine of Natural History, says, "The piece of water called Old Pond, about one mile from Godalming, on the London road, is a most attractive spot to waterfowl; and an island in its centre is the resort of some of them in the breeding-season, and also a variety of other birds, which find it a safe and unmolested place for the same purpose. I have often delighted, in years that are gone, to visit this island and its inmates: the owner, Robert Moline, Esq. used to allow us free ingress to all and every part of the estate; a liberty any one with an incipient thirst for a knowledge of natural history would be sure to avail himself of. One day, having pushed off from the shore, and moored the little shallop to some of the osiers which surrounded the island, I began my accustomed examination. The first object that attracted my attention was a lot of dry rushes, flags, reeds, &c. enough to fill a couple of bushel baskets. This mass was lodged about twenty feet from the ground, in a spruce fir-tree, and looked for all the world as if it had been pitched there with a hay-fork. I mounted instantly, thinking of herons, eagles, and a variety of other wonders; just as my head reached the nest, flap, flap, out came a Moor-hen, and, dropping to the water, made off in a direct line along its surface, dip, dip, dip, dipping with its toes, and was lost in the rushes of a distant bank, leaving an evanescent track along the water, like that occasioned by a stone which has been skilfully thrown to make ducks and drakes. The nest contained seven eggs, warm as a toast. The situation was a very odd one for a Moor-hen's nest; but there was a reason for it; the rising of the water in the pond frequently flooded the banks of the island, and, as I had before witnessed, had destroyed several broods by immersion."

The following notice is from the pen of Mr. Waterton: —"In 1826 I was helping a man to stub some large willows near the water's edge. There was a Water-hen's nest at the root of one of them. It had seven eggs in it. I broke two of them, and saw that they contained embryo chicks. The labourer took up part of the nest, with the remaining five eggs in it, and placed it on the ground about three yards from the spot where we had found it. We continued in the same place for some hours afterwards, working at the willows. In the evening, when we went away, the old Water-hen came back to the nest. Having no more occasion for the labourer in that place, I took the boat myself the next morning, and saw the Water-hen sitting on the nest. On approaching the place, I observed that she had collected a considerable quantity of grass and weeds, and that she had put them all around the nest. A week after this I went to watch her, and saw she had hatched; and, as I drew nearer to her, she went into the water with the five little ones along with her." An interesting account of Moor-hens moving their eggs to make an addition to their nest, is thus related by Mr. Selby in the printed Proceedings of the Berwickshire Naturalists' Club:—"During the early part of the summer of 1835, a pair of Water-hens built their nest by the margin of the ornamental pond at Bell's Hill, a piece of water of considerable extent, and ordinarily fed by a spring from the height above, but into which the contents of another large pond can occasionally be admitted. This was done while the female was sitting; and as the nest had been built when the water level stood low, the sudden influx of this large body of water from the second pond caused a rise of several inches, so as to threaten the speedy immersion and consequent destruction of the eggs. This the birds seem to have been aware of, and immediately took precautions against so imminent a danger; for when the gardener, upon whose veracity I can safely rely, seeing the sudden rise of the water, went to look after the nest, expecting to find it covered and the eggs destroyed, or at least forsaken by the hen, he observed, while at a distance, both birds busily engaged about the brink where the nest was placed; and, when near enough, he clearly perceived that they were adding, with all possible dispatch, fresh materials to raise the fabric beyond the level of the increased contents of the pond, and that the eggs had, by some means, been removed from the nest by the birds, and were then deposited upon the grass, about a foot or more from the margin of the water. He watched them for some time, and saw the nest rapidly increase in height; but I regret to add, that he did not remain long enough, fearing he might create alarm, to witness the interesting act of the replacing of the eggs, which must have been effected shortly afterwards; for upon his return, in less than an hour, he found the hen quietly sitting upon them in the newly raised nest. In a few days afterwards the young were hatched, and, as usual, soon quitted the nest and took to the water with their parents. The nest was shown to me *in situ* very soon afterwards, and I could then plainly discern the formation of the new with the older part of the fabric."

The eggs are usually seven or eight in number, of a reddish white colour, thinly spotted and speckled with orange-brown; the length one inch eight lines, by one inch three lines and a half in breadth. Incubation lasts three weeks, and they produce two, if not three broods in a season, the first of which is generally hatched by the end of May. J. M. Boultbee, Esq., in a letter to the Rev. W. T. Bree, says, "At the bottom of the walk between the house and our garden, in winter, runs a brook, but in summer there is only still water, which is inhabited by Water-hens, &c. The Water-hens have become quite tame, from persons constantly passing and repassing. This year, 1833, in the spring, a pair of them hatched some young ones; and, as soon as they were feathered, made another nest and hatched some more. The young ones of the second hatch left the old birds, and have been adopted by the young ones of the first hatch, who have each taken one, and seem to take as much care of them as the old ones could have done: they feed them, and never leave them. Only one young one has remained with the old hen." The authors of the Catalogue of Norfolk and Suffolk Birds say, that two young Moor-hens, which were hatched under a Hen, used to take their food from the bill of their foster-mother; and it was not till they were several weeks old that they would pick their food from the ground. We have, notwithstanding, observed this bird in its natural state, when it had only been hatched a few days, running about upon the tops of the weeds and picking insects from them. Pennant says Moor-hens might possibly be domesticated, for a pair in his grounds never failed appearing when he called his ducks to feed, and partook before him of the corn. Among the many aquatic birds with which the Ornithological Society have stocked the canal and the islands in St. James's Park, are several Moor-hens: in the course of the present summer, 1841, two broods have been produced, the young of which are so tame, that they leave the water and come up close to your feet on the path to receive crumbs of bread. I may also remark that in this instance, as in that referred to by Mr. Boultbee, the young of the second brood were brought up by the young of the first brood. In winter, during hard frost, when ponds are frozen over, Moor-hens resort to running streams, and harbour in plantations, hedgerows, and thick bushes; roosting in firs, thorn-trees, and others that are covered with ivy, feeding probably on the berries. Mr. Jesse mentions that, during the frost of the winter of 1832, a pair of Water-hens kept almost entirely in a large arbutus tree, on the lawn of a house belonging to a lady at Hampton Wick, which was enclosed by a high paling, and no pond was near it. Here they probably fed on the berries of the tree, and other produce of the garden. The tree, however, was always their place of refuge if they happened to be disturbed when feeding in the garden.

When the ice disappears, Moor-hens return to the ponds. When the bird is in good condition, the flesh is well flavoured.

The Moor-hen is rare in Denmark and Sweden, but is said by Pennant to inhabit Russia and part of Siberia. It is very common in Germany, Holland, France, Spain, Provence, and Italy. Dr. Heineken includes it among the Birds of Madeira; Mr. Joseph Clarke mentioned to me having seen skins from Africa; this species was seen by H. M. Drummond Esq., at Biserta in the spring of the present year, 1845, and Dr. Andrew Smith brought specimens from so far south as the vicinity of the Cape. It is found at Corfu, Malta, and Crete from May till September. Mr. Strickland saw this bird at Smyrna in winter: it has been found at Trebizond, and in the countries between the Black and the Caspian Seas.

It is found at the Mauritius, in Nepal, Calcutta, and China.

The male has the beak yellowish green; the base of it, and the naked patch on the forehead, red; irides reddish hazel; the back, wings, rump, and tail, rich dark olive-brown; head, neck, breast, and sides, uniform dark slate-grey; outside of the thighs and the flanks streaked with white; belly and vent greyish white; under tail-coverts white; above the tarsal joint a garter of red; legs and toes green; the claws dark brown.

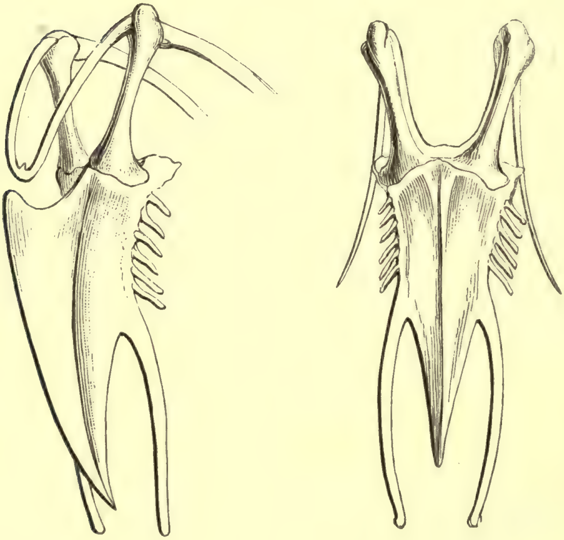
Mr. Gould mentions that he has seen females that were more vividly coloured than males.

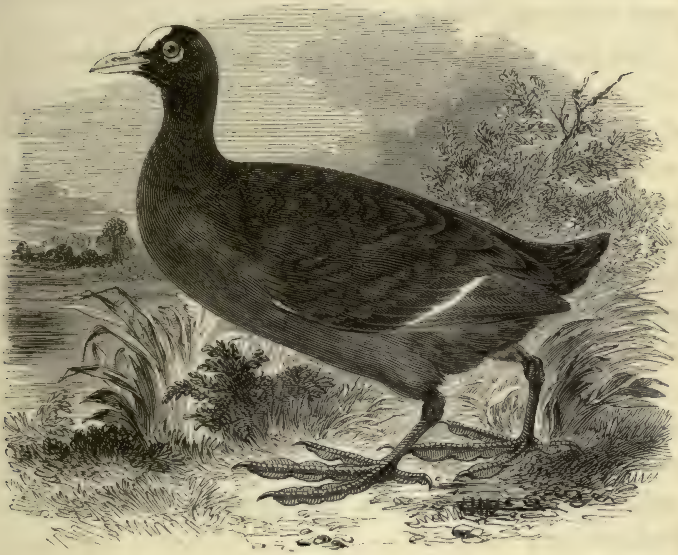
The length of the Moor-hen is about thirteen inches. From the carpal joint to the end of the wing six inches and three-quarters.

The young are at first covered with black hairy down. Their after-plumage is described by Mr. Selby as white on the throat; front and cheeks a mixture of brown and white; breast and sides ash-grey, tinged with brown; the belly paler; the flanks streaked with yellowish brown; under tail-coverts cream-yellow; upper parts dark grey, tinged with oil-green; beak and legs dull green; the frontal patch small, and partly concealed by feathers.

The Rev. Mr. Lubbock mentions a curious variety of the Moor-hen, in which the back and wings were mottled with white.

The vignette represents the breast-bone of the Moor-hen of the natural size, in two points of view, one from the side, the other as seen from below; the latter serves to illustrate the flattened form of the body which belongs to the Crakes, Gallinules, and Rails.





THE COMMON COOT.

Fulica atra.

Fulica atra,	*Common Coot,*	Penn. Brit. Zool. vol. ii. p. 127.
,, ,,	,, ,,	Montagu, Ornith. Dict.
,, ,,	*The* ,,	Bewick, Brit. Birds, vol. ii. p. 149.
,, ,,	*Common* ,,	Flem. Brit. An. p. 100.
,, ,,	,, ,,	Selby, Brit. Ornith. vol. ii. p. 193.
,, ,,	,, ,,	Jenyns, Brit. Vert. p. 221.
,, ,,	*The* ,,	Gould, Birds of Europe, pt. xii.
,, ,,	*Foulque macroule,*	Temm. Man. d'Ornith. vol. ii. p. 706.

Fulica. *Generic Characters.*—Beak of medium size, shorter than the head, strong, conical, straight, compressed at the base, higher than broad, superior basal portion extending up the forehead, and dilated, forming a naked patch ; points of both mandibles compressed, of equal length ; the upper one slightly curved the inferior mandible with an angle underneath at the symphysis. Nostrils lateral, pierced longitudinally about the middle of the beak, partly closed by a membrane. Legs long, slender, naked above the tarsal joint; three toes in front, one behind; all the toes long, united at the base, furnished laterally with an extension of the membrane, forming rounded lobes. Wings of moderate size; the first feather shorter than the second or third, which are the longest in the wing. Tail short.

The Coot is a common bird upon large ponds, lakes, and slow rivers; it also frequents the level shores of some parts of the coast, where extensive mud-flats are laid bare at each retiring tide, preferring, however, open waters, and does not, except in the breeding-season, so much seek the sheltered reed-grown situations frequented by the Moorhen; the extreme watchfulness of the Coot enabling it to avoid danger. Colonel Hawker, in his Instructions to Young Sportsmen, says, " If a gentleman wishes to have plenty of wild-fowl on his pond, let him preserve the Coots, and keep no tame Swans. The reason that all wild-fowl seek the company of the Coots, is because these birds are such good sentries, to give the alarm by day, when the fowl generally sleep."

The Coot is seldom seen on dry land, and its power of active progression on shore has been doubted; but Mr. Youell observes that those authors could have had but few opportunities of noticing the habits of this bird, for, instead of being awkward on land, it is fully as lively on land as in the water, standing firmly and steadily, and without any tottering or waddling in its gait. It picks up grain with surprising alacrity, even much quicker than any of our domestic poultry. If deprived of water, on which to pass the night, it will roost, as other land birds, upon any elevated situation, and it will ascend a tree with the activity of a Wren. In reference to the power of its claws, the sportsman's book already referred to contains the following caution:—" Beware of a winged Coot, or he will scratch you like a cat."

The authors of the Catalogue of Norfolk and Suffolk Birds notice the breeding of the Coots on those large pieces of water in the marshes of Norfolk called *Broads*, and on some of them in considerable numbers. "In autumn and winter these birds make their appearance on the rivers in vast flocks; and upon an appointed day all the boats and guns are put in requisition, and a general attack is made upon them. On the banks of the Stour the fowlers approach them, while sitting upon the ooze, by concealing themselves behind a skreen made of bushes, which is placed upon a sledge and driven before them. On crossing the Stour in the month of January, in a dead calm, we observed the Coots floating upon the water in a semicircle. On our approach within about two hundred yards, the whole body, amounting at the least calculation to several thousands, partly rose and flapped along the surface of the water, making a tremendous rushing noise. Had there been any wind, they would have risen into the air without difficulty; but, there being none, they could scarcely disentangle their feet. We killed two wounded birds; one of them afforded excellent sport, not suffering the boat to approach it without diving, and coming up oftentimes a hundred yards off: it had the action and alertness of a Dobchick." Sir William Jardine says, Coots have a very powerful flight when once on the wing, and fly with their legs stretched out behind, acting the part of a tail, in the manner of a Heron. In Scotland and the north of England they arrive in the marshes and lakes to breed, and retire again at the commencement of winter to the more southern coasts. Here, in the south, these birds are very numerous at several different places, particularly on the shores and inland waters of the Isle of Sheppy, at the mouth of the Thames; in the Southampton water in Hampshire, at Poole, and other parts of Dorsetshire; they are also carefully protected, and accordingly breed in great quantities, at Slapton Ley, in Start Bay, on the coast of Devon. They feed on small fishes, aquatic insects, and various portions of vegetable matter. Coots breed in many parts of England, forming a nest of flags, among reeds, upon the margins of lakes, ponds, and rivers. Mr. Hewitson says, that "he has had opportunities of examining many of their nests. They are large, and apparently clumsy at first sight, but are amazingly strong and compact; they are sometimes built on a tuft of rushes, but more commonly amongst reeds; some are supported by those that lie prostrate on the water, whilst others have their foundations at its bottom, and are raised till they become from six to twelve inches above its surface, sometimes in a depth of one and a half or two feet. So firm are some of them, that, whilst up to the knees in water, they afforded me a seat sufficiently strong to support my weight. They are composed of flags and broken reeds, finer towards the inside, and contain from seven to ten eggs." These are stone colour, speckled over with nutmeg-brown, two inches one line in length by one inch six lines in breadth. Bewick mentions that a Bald Coot built her nest in Sir W. Middleton's lake, at Belsay, Northumberland, among the rushes, which were afterwards loosened by the wind, and, of course, the nest was driven about, and floated upon the surface of the water, in every direction; notwithstanding which, the female continued to sit as usual, and brought out her young upon her moveable habitation. Some broods appear towards the end of May, others in June. The young quit the nest soon after they are hatched, and leave it entirely after three or four days, to follow their parents, who are very careful of them.

Sir Thomas Browne of Norwich, when writing of British Birds about 1635, says, "Coots are in very great flocks on the broad waters. Upon the appearance of a Kite or Buzzard, I have seen them unite from all parts of the shore in strange numbers; when, if the Kite stoop near them, they will fling up, and spread such a flash of water with their wings, that they will endanger the Kite, and so keep him off again and again in open opposition;" and this habit they practise to the present time to defend themselves or their young from the frequent attacks of large and predaceous Gulls.

Of their habits in autumn and winter, when pursued by the sportsman or the fowler, Colonel Hawker says, "Coots found in rivers are scarcely thought worth firing at; yet they are in great requisition when they arrive for the winter on the coast, from the immense number that may be killed at a shot, as they roost on the mud-banks. Coots, when on the coast, usually travel to windward, so that a west wind brings them to the west, and an easterly wind to the east, instead of the contrary, as with other fowl. The plan that I have found best for slaughtering the Coots by wholesale is, either to listen for them before daylight, and rake them down at the grey of a white frosty morning, or watch them at some distance in the afternoon, and set into them as late in the evening as you can see to level your gun, taking care, if possible, to keep them under the western light. Coots, instead of drawing together before they fly, like geese and many other fowl, always disperse on being alarmed; and, as they generally fly to windward, the gentleman's system of wild-fowl shooting answers well, which is, to embark with a party, sail down on them, and, as they cross, luff up and fire all your barrels. When a beginner at wild sport, I used to be mightily pleased with this diversion. When on the coast, you may easily distinguish Coots from wild-fowl by the scattered extent of their line, their high rumps, their rapid swimming, and their heads being poked more forward.

"They are generally sold for eighteen pence a couple, previously to which they are what is call *cleaned.* The recipe for this is, after picking them, to take off all the black down, by means of powdered resin and boiling water, and then to let them soak all night in cold spring water; by which they are made to look as white and as delicate as a chicken, and to eat tolerably well; but, without this process, the skin in roasting produces a sort of oil, with a fishy taste and smell; and if the skin be taken off, the bird becomes dry, and good for nothing. A Coot shot in the morning, just after roosting, is worth three killed in the day when full of grass, because he will then be whiter, and milder in flavour. A Poole man is very particular about this, as the sale of his Coots much depends on it."

The Coot, as observed by Sir William Jardine and Mr. Selby, is a summer visiter to Scotland. Dr. Neill and Mr. Dunn mention it as visiting occasionally the lochs of some of the islands of Orkney. It is found during summer on the coasts of Denmark, Sweden, and Norway, going as far as the Faroe Islands, and even to Iceland, as noticed by Faber and other authorities, but not farther to the west; the Coot of North America and the United States is now known to be a different species. Our Coot is found in Russia and the eastern parts of Siberia, according to Pennant. It is very abundant in Holland, and on the lakes and rivers of Germany, France, Switzerland, Spain, Provence, and Italy. Dr. Heineken includes the Coot among the Birds of Madeira. It is found in Sicily, at Malta, and Tunis. Mr. Strickland saw it at Smyrna; the Zoological Society have received specimens from Trebizond; and the Coot of India, China, Japan, and the island of Sunda, is said to be identical with the Coot of Europe.

The beak is of a pale rose-red, or flesh-colour; the patch on the forehead naked, and pure white; hence the name of Bald Coot: the irides crimson; below the eye a small half-circular streak of white; the whole of the plumage above and below sooty black, tinged with dark slate-grey; the head rather darker than the body; primaries nearly pure black; secondaries tipped with white, forming a line or narrow bar across the wing; legs, toes, and membranes dark green, the garter above the tarsal joint orange.

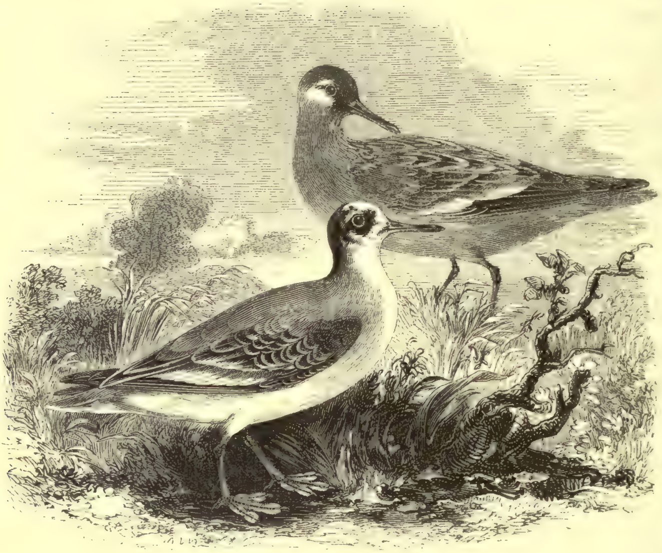
The whole length sixteen inches. From the carpal joint to the end of the wing about eight inches.

Adult birds from their more decided dark colour have been by some authors considered distinct, and called *F. aterrima;* but we have only one species. The young birds of the year are smaller than the parent, the naked frontal patch is also smaller, and the under parts of the plumage are of a lighter grey. Young chicks on emerging from the egg-shell are covered with black down, with some lighter-coloured down hanging loosely about them.

Varieties entirely white, and others only partially white, have been seen both in Norfolk and Lincolnshire.

The decidedly aquatic habits, with the attendant peculiarity of the feet of this and the remaining members of this order of birds, entitle them to some distinction from the Gallinules, as more nearly approaching the true swimmers, *Natatores.*

GRALLATORES. *LOBIPEDIDÆ.*



THE GREY PHALAROPE.

Phalaropus lobatus.

Phalaropus lobatus,	*Grey Phalarope,*	PENN. Brit. Zool. vol. ii. p. 202.
Tringa lobata,	,, ,,	MONTAGU, Ornith. Dict.
Phalaropus lobatus,	,, ,,	BEWICK, Brit. Birds, vol ii. p. 155.
,, *hyperboreus,*	*Red* ,,	,, ,, ,, ,, p. 154.
,, *lobatus,*	*Grey* ,,	FLEM. Brit. An. p. 100.
,, ,,	,, ,,	SELBY, Brit. Ornith. vol. ii. p. 162.
,, ,,	,, ,,	JENYNS, Brit. Vert. p. 215.
,, *platyrhinchus,*	,, ,,	GOULD, Birds of Europe, pt. iv.
,, ,,	*Phalarope platyrhinque,*	TEMM. Man. d'Ornith. vol. ii. p. 712.

PHALAROPUS. *Generic Characters.*—Beak rather long, slender, weak, straight, depressed and blunt; both mandibles grooved throughout their whole length; the upper mandible slightly curved at the point. Nostrils basal, lateral, oval, prominent, encircled by a membrane. Legs moderate, slender, tarsus compressed; three toes in front, one behind; the anterior toes united as far as the first articulation, the other parts furnished with an extension of the membrane laterally, forming lobes slightly serrated at the edges, the hind toe without membrane, and articulated on the inner side of the tarsus. Wings moderate; the first and second quill-feathers the longest.

This pretty species, remarkable for the great difference of its red appearance when in the plumage of summer, compared to its delicate grey colour in winter, and from which latter prevailing tint it derives its name, received an early notice from our countryman and naturalist George Edwards, who figured this bird in its winter plumage in his plate, No. 308, from a specimen killed in Yorkshire, in January, 1757, and another in its summer plumage, plate 142, from a specimen received from Hudson's Bay. Edwards, in his Gleanings in Natural History, called them Coot-footed, from the dilated and lobed membranes of the toes, resembling in structure the same part in the Coot; and in Papa Westra, according to Dr. Neill, in his Tour through Orkney, the Phalaropes are called Half-webs.

Such decided swimmers are these Phalaropes, that Major Sabine, in his Memoir on the birds of Greenland, mentions having shot one out of a flock of four, on the west coast of Greenland in latitude 68°, while they were swimming in the sea amongst icebergs, three or four miles from the shore; and Dr. Richardson, in his Natural History, Appendix to Sir Edward Parry's Second Arctic Voyage, says, they were observed upon the sea, out of sight of land, preferring to swim out of danger rather than take wing. Their under plumage is also thick and compact, and the bones of the legs flattened like those of the true swimming birds.

Though formerly a rare bird in this country, since Pennant says that he only knew of two instances in which it had occurred in his time, they are now more common, and generally appear in the autumn, when on their way to their southern winter quarters. They are also, for the most part, young birds of the year, in various stages of change towards the pure and delicate grey colour of the plumage of winter. Some years since, A. B. Lambert, Esq. presented to the Zoological Society a beautifully marked adult bird; this was killed in Wiltshire in the month of August, and retained at that time a great portion of the true red colours of the breeding-season, or summer plumage; and I have occasionally seen specimens obtained in December and January, and then exhibiting, of course, the perfect grey plumage of winter.

They feed on the smaller thin-skinned crustacea and aquatic insects, which they search for and pick up from the surface of the water while swimming; and their attitude resembles that of the Teal, with the head drawn backwards. A specimen in my own collection, killed in November 1824, while swimming on the Thames near Battersea, was seen there by a gardener, who went home, a distance of a mile and a half, to fetch his gun, and on his return found the bird still swimming and feeding near the same spot.

This species breeds in Iceland, Greenland, on the North Georgian and Melville Islands. The eggs are usually four in number, of a stone colour tinged with olive; spotted and speckled over with dark brown; measuring one inch two lines in length, by ten lines and a half in breadth. The egg here described, which is in my own collection, and is figured in Mr. Hewitson's work, was brought from Melville Island, and also the female bird in summer plumage, from which the figure in the back-ground of the illustration was drawn and engraved.

This species has now been obtained in so many different counties in England, as to render the particular enumeration of them unnecessary; in some instances they were found to be so tame as to allow of very close approach, and in one instance that came to my own knowledge, the bird was struck down by a labouring man with a spade. The Grey Phalarope has also been killed in Ireland and in Scotland. In Denmark, Sweden, and Norway it is observed in spring and autumn, when on its passage to and from its breeding stations in higher northern latitudes. It visits Iceland and Greenland. On Sir Edward Parry's first and second Arctic voyages, it was observed to be abundant during the summer months on the North Georgian Islands, and found breeding at Iglookik and Melville Island on the third voyage. This species is well known to the ornithologists of the United States, where it performs periodical migrations north and south, similar to those observed in Europe; the Grey Phalarope is also included in the volume devoted to the Zoology of Captain Beechy's voyage to the Pacific in the Blossom, but the locality in which the bird was obtained is not named.

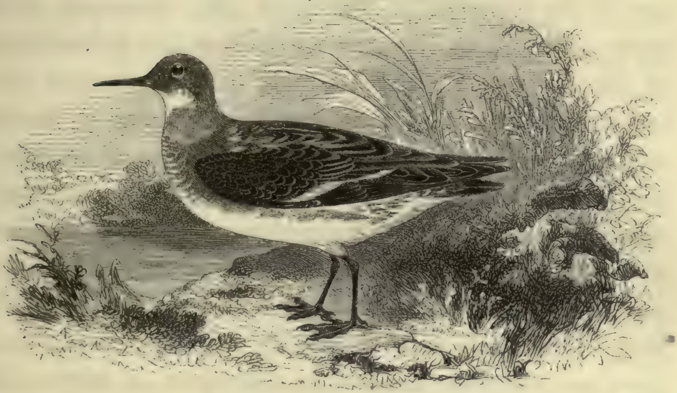
According to Pennant, this species is found in the eastern parts of the north of Europe; is abundant in Siberia, and about the large lakes of Asia to the Caspian Sea. It is occasionally found in Holland and Germany; but is considered a rare bird in France, Switzerland, and Italy. Mr. Blyth has obtained it in the vicinity of Calcutta.

The females of this species appear to assume more perfect colours, in the breeding-season, and to retain them longer than the males. A female in fine summer plumage has the beak yellow, the point dark brown; around the base of the beak, and on the top of the head, dark brownish black; irides dark brown; around the eye a patch of white; a narrow stripe down the back of the neck; all the back and rump nearly black, with pale yellow margins; lesser wing-coverts lead-grey, edged with white; greater wing-coverts and secondaries lead-grey, with broad ends of white; tertials also lead-grey margined with orange-yellow; quill and tail-feathers almost black; the front and sides of the neck, the breast, and all the under surface of the body uniform reddish chestnut, or bay; under surface of tail-feathers ash-grey; legs, toes, and their lobed membranes yellow; the claws black.

When changing in autumn to the plumage of winter, the bay under-colour is lost by degrees; the first grey feathers that appear are the scapulars, and from thence down the sides of the back; afterwards those of the interscapular space, and the centre of the back below; the orange-coloured margins of the tertials becoming paler.

In winter the beak is black; around its base, and on the top of the head, white; irides dark brown; around the eye dusky black; a patch of the same colour on the ear-coverts and on the occiput; back of the neck, scapulars, upper wing-coverts, and all the back, uniform pearl-grey; greater coverts, secondaries, and tertials, lead-grey, margined with white; primaries as in summer; tail-feathers ash-grey, margined with white; chin, neck in front, breast, and all the under surface of the body pure white, except a small patch of pearl-grey before the point of the wings, but not extending round the front; legs, toes, and membranes yellowish brown; the claws black.

Specimens vary considerably in size; the females are the largest, and measure about eight inches and a quarter in their whole length; the males usually half an inch less; from the carpal joint to the end of the wing four inches and three-quarters.



THE RED-NECKED PHALAROPE.

Phalaropus hyperboreus.

Phalaropus hyperboreus,	*Red Phalarope,*	Penn. Brit. Zool. vol. ii. p. 125.
„ *fulicaria,*	„ „	Mont. App. to Sup. Ornith. Dict.
„ *fuscus,*	*Red-necked* „	Bewick, Brit. Birds, vol. ii. p. 157.
Lobipes hyperboreus,	„ *Coot-foot,*	Flem. Brit. An. p. 100.
„ *hyperborea,*	„ *Lobe-foot,*	Selby, Brit. Ornith. vol. ii. p. 166.
„ *hyperboreus,*	„ „	Jenyns, Brit. Vert. p. 214.
Phalaropus „	*Red-necked Phalarope,*	Gould, Birds of Europe, pt. iv.
„ „	*Phalarope hyperboré,*	Temm. Man. d'Ornith. vol. ii. p. 709.

The Red-necked Phalarope is at once distinguished from the Grey Phalarope last described, by its smaller size, yet with a longer and more slender beak, and it presents also much less seasonal variation in its plumage. Edwards has also, in this instance, engraved two representations of the bird, plates 46 and 143, from examples, both of which were brought from Hudson's Bay.

In its habits the Red-necked Phalarope very closely agrees with the Grey Phalarope, but is comparatively much more rare in England, and more common on the northern islands of Scotland. Pennant refers to a specimen shot on the banks of a fresh-water pool on the Isle of Stronsay, one of the Orkneys, in May 1760. Mr. Simmonds, in a paper published in the eighth volume of the Transactions of the Linnean Society, refers to six females and two males, found in 1803 about fresh-water lakes in Sanda and North Ronaldsha, the two most northern of the Orkney islands. Mr. Bullock, in a letter to Colonel Montagu, says, "I found this Phalarope common in the marshes of Sanda and Westra in the breeding season, but which it leaves in the autumn. This bird is so extremely tame that I killed nine without moving out of the same spot, being not the least alarmed at the report of a gun. It lays four eggs, of the shape of that of a Snipe, but much less, of an olive colour, blotched with dusky. It swims with the greatest ease, and when on the water looks like a beautiful miniature of a Duck, carrying its head close to the back, in the manner of a Teal." Mr. Salmon, who visited Orkney in the summer of 1831, says of the Red-necked Phalarope, "this beautiful little bird appeared to be very tame; although we shot two pairs, those that were swimming about did not take the least notice of the report of the gun; and they seemed to be much attached to each other, for when one of them flew to a short distance, the other directly followed; and while I held a female that was wounded in my hand, its mate came and fluttered before my face. We were much gratified in watching the motions of these elegant little creatures, as they kept swimming about, and were for ever dipping their bills into the water; and so intent were they upon their occupation, that they did not take the least notice of us, although within a few yards of them. The female has not that brilliant bay colour upon the sides of the neck and breast, so conspicuous in the male. After some little difficulty, we were fortunate in finding their nests, which were placed in small tufts of grass growing close to the edge of the loch ; they were formed of dried grass, and were about the size of that of a Titlark, but much deeper. The eggs are considerably smaller than those of the Dunlin, and beautifully spotted all over with brown. They had but just commenced laying, June 13, as we found only from one to two eggs in each nest ; but we were informed by a boy whom we engaged in our service, that they always lay four, and are called by the name of Half-web. Mr. Dunn, who visited Orkney and Shetland in 1831, 1833, and 1835, says, " I never saw this bird in Shetland, but I got several in Orkney ; it sometimes builds its nest on small green islands in the middle of the lakes. The places where I procured their eggs, and found the birds most numerous, were in a small sheet of water three or four miles from the lighthouse of Sanda, a lake near Nunse Castle in Westra, and at Sandwick, near Stromness."

This species has been obtained in Norfolk, Yorkshire, and Northumberland. Passing over the Scottish localities already named, M. Nilsson mentions that the Red-necked Phalarope visits Sweden and Norway, where a few remain to breed on the margins of fresh-water lakes, but the greater part going still further north, are known to visit Lapland, the Faroe Islands, and Iceland. Mr. W. Proctor, Subcurator of the Durham University Museum, visited Iceland in the summer of 1837, and in some notes on the habits of birds seen there, which were published in the Naturalist, mentions, that " The Red-necked Phalarope, or Lobefoot, breeds on little hillocks among the marshes. The young birds leave the nest as soon as hatched. On the approach of danger the old bird runs among the aquatic herbage, spreading her wings, and counterfeiting lameness, for the purpose of deluding the intruder; and after leading the enemy from her young, she takes wing and flies to a great height, at the same time displaying a peculiar action of the wings; then descending with great velocity, and making simultaneously a noise with her wings. On her return to her young, she uses a particular cry for the purpose of gathering the young together. As soon as she has collected them, she covers them with her wings like the domestic hen." A small flock of these birds was seen on the west coast of Greenland, in latitude 71°, in June, on Sir Edward Parry's first Arctic voyage; and Captain James Ross, in the Natural History Appendix to the third voyage, mentions that a small flock of these birds alighted under the lee of the ship, during a strong breeze of wind, and were so fearless of danger as to approach within a few yards of her, feeding on small shrimps, which were seen in great numbers. At this time, it is observed, "we were sixty miles from the nearest land. (Disco.) We found them breeding at whale fish islands, but saw no more of them after leaving the coast of Greenland." Dr. Richardson says this species breeds on all the Arctic coast of America, and it is well-known to the naturalists of the United States; but Mr. Audubon remarks that few individuals are ever seen to the south of New York.

M. Temminck, and other authorities on the continent of Europe, mention that this bird is obtained occasionally in Holland and Germany, but is rare in France, Switzerland, Provence, and Italy.

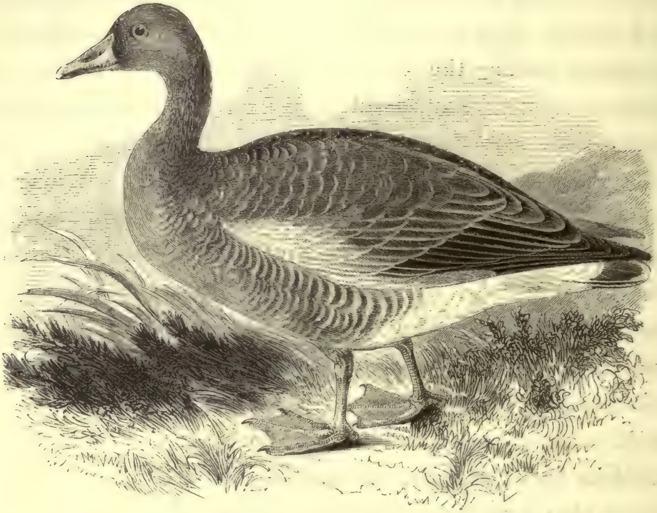
The food, as may be inferred from what has been already stated, consists of small crustacea, marine insects, worms, &c. An egg in my own collection measures one inch two lines in length, by ten lines in breadth, the ground colour olive, blotched and streaked over with dark red brown. From the denuded state of the breast of males obtained during the breeding season, there is reason to believe they take a considerable share in the process of incubation.

In summer the beak is black, more slender and longer than that of the Grey Phalarope; irides dark brown; around the base of the beak and the eyes, on the top of the head, back of the neck, all the back and the wing-coverts, nearly uniform dark lead-colour; the scapulars and tertials margined with reddish yellow; primaries almost black; secondaries rather lighter in colour and tipped with white; upper tail-coverts dusky and white; tail-feathers brownish grey, the middle pair the darkest in colour; chin pure white; sides and front of the neck rich yellowish red; feathers of the lower part of the neck in front dark grey, edged with white; breast, belly, vent, and under tail-coverts, pure white; in front of the wing a patch of dark grey, which extends backwards, mixed with white over the sides and flanks. Legs, toes, and their membranes green, the claws black.

Adult birds in winter have little or no red on the neck or back, and young birds of the year resemble old birds in winter.

Females measure about seven inches in length, and are larger than males; from the carpal joint to the end of the longest quill-feather four inches and one quarter. The length of the beak, from the feathers on the forehead, ten lines and a half.

NATATORES. *ANATIDÆ.*



THE GREY-LAG GOOSE.

Anser ferus.

Anas anser,	*Grey Lag Goose,*	PENN. Brit. Zool. vol. ii. p. 228.
„ „ *ferus,*	*Grey Lag Goose,*	MONTAGU, Ornith. Dict.
„ „ „	„ „ „	BEWICK, Brit. Birds, vol. ii. p. 299; but not the figure.
Anser palustris,	„ *Goose,*	FLEM. Brit. An. p. 126.
„ „	„ *Lag Wild Goose,*	SELBY, Brit. Ornith. vol. ii. p. 261.
„ *ferus,*	*Wild Goose,*	JENYNS, Brit. Vert. p. 222.
„ „	*Grey Lag Wild Goose,*	GOULD, Birds of Europe, pt. xviii.
Anas anser ferus,	*Oie cendrée ou première,*	TEMM. Man. d'Ornith. vol. ii. p. 818.
Anser ferus,	„ „ „	„ „ „ pt. iv. p. 517.

ANSER. *Generic Characters.* — Beak not longer than the head, conical, elevated at the base, which is covered with a cere, or skin; under mandible smaller than the upper. Nostrils lateral, placed towards the middle of the beak, pierced anteriorly. Legs under the centre of the body; the tarsi long, the hind toe free, articulated upon the tarsus.

THE fifth and last Order of Birds, the Natatores, or Swimmers, remains now to be considered. A large portion of these are remarkable for their powers of swimming and diving; they are commonly called Water Fowl, and as an Order have frequently been designated Palmipedes, in reference to their webbed feet. From the geographical position, extent, and varied character of the British Islands, the species of this Order are very numerous, comprehending nearly one-third of the whole numbers of our British Birds. The first family of this Order, the Anatidæ, is also extensive, including the Geese, Swans, Ducks and Mergansers. The first three portions were formerly considered as belonging but to one genus, *Anas;* and hence the family name Anatidæ: modern systematic authors have found it more convenient, as well as desirable, to divide them into smaller groups, which are known to be distinct in their characters and habits, and these will be hereafter referred to. Many of the species are of great interest and value.

Under the term, Wild Goose, four or five species are frequently included, and the Grey Lag Goose, the first on our list, has not always been so well defined or represented as to exhibit the true specific characters, that distinguish it from the Bean Goose and White-fronted Goose, with which the Grey-lag Goose is the most frequently confounded. The present species is considered to be the origin from which our valuable domestic race is derived; and to show the aptitude of the wild bird to this purpose, I may mention, that the Zoological Society of London, possessing a pinioned wild Grey-lag Gander, which had never associated with either Bean Goose or White-fronted Goose, though both were kept on the same water with him, a domestic goose selected in the London market, from the circumstance of her exhibiting in her plumage the marks which belong to, and distinguish the true Grey-lag species, was this season, 1841, brought and put down to him. The pair were confined together by themselves for a few days, became immediately very good friends, and a sitting of eight eggs was the consequence. The offspring were prolific.

At the first exhibition of domestic poultry and water-fowl at the Gardens of the Zoological Society, in the Regent's Park, at the end of May 1845, there was a fine specimen of the wild Grey-lag Goose, sent from India by Mr. Blyth to Mr. Bartlett, who exhibited the bird. The next coop contained the finest and the heaviest pair of domestic Geese, sent by Mr. Nolan, from Dublin. It was most obvious that these domestic birds were derived from the Grey-lag Goose. The pinky flesh colour of the beak and the white nail; the distribution of the markings of the plumage generally; the large blue grey space on the anterior portion of the wing; the flesh colour of the legs and feet; and the voice, were alike in both. The half bred geese, previously referred to as bred by the society, were also exactly similar. It will be observed that I have resumed the old name of Grey-lag Goose, believing that the term lag, as applied to this goose, is either a modification of the English word, lake, the Latin, *lacus*, or perhaps an abbreviation of the Italian, *lago;* from which latter country it is even probable that we might originally have obtained this our domesticated race. The *candidus anser* of Lucretius,* which by its cackling excited the attention of the guard, and saved the Roman Capitol, was perhaps, of the same race as those we possess at the present time; as it must be admitted to be very likely, that after the Romans had established themselves in this country, they would introduce many of their own domesticated animals. How it happens that the domestic Goose derived from a wild *grey* species, should become *white*, I am unable to answer;* but some of those persons who keep Geese, state, that all ganders after a certain age become white. This colour once obtained, there is little or no difficulty in perpetuating it by restriction, and there is a motive for perseverance, as white feathers produce a better price than grey ones. Domestic Geese are said to be very long lived; one is recorded to have lived sixty-four years, and was then killed by mistake.

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* Horace mentions as a dainty, the liver of a *white* goose fed on rich figs.

There is, however, some reason to believe that one other species, at least, has had some share in establishing our present domestic race. Almost all the species of Geese, Swans, Ducks, and Mergansers, are remarkable for the peculiar form of their organ of voice, or windpipe, and so peculiar as well as permanent is this anatomical character, that the males of the British species of this family, consisting of about forty, almost all of them, but more particularly the Swans, Ducks, and Mergansers, can be immediately identified by the examination of this organ alone. Figures of these will be hereafter introduced as vignettes to the species to which they belong. In the Wild Grey-lag Goose the tube of the windpipe is nearly cylindrical, and this form of trachea I have frequently found on examination of domestic Geese intended for the table, but I have also frequently found the tube flattened at the lower portion, a character which is constant in the *Anser albifrons*, or White-fronted Goose; and there are few persons well acquainted with the appearance of our domestic Geese who have not observed in many of them the white ring of feathers round the base of the beak extending a little upwards on the forehead, from which the *Anser albifrons* derives one of its names: the figure of the White-fronted Goose, the fourth species here given, will exhibit this mark. The legs of many of our domestic Geese are orange coloured, like those of the white-fronted; the legs of the Wild Grey-lag Geese are of a pale flesh colour. The white colour of the horny termination of the beak, called the nail, is common to both. The occasional deviation from the natural colour of the plumage of the wild birds to a pure white, which is probably caused by domestication and selection, has been referred to.

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* There are two white varieties of domestic Ducks derived from the Wild Duck, namely, the English Aylesbury Duck and the French Call Duck.

The Grey-lag Wild Goose is said to have been formerly very common in the fens of this country, residing there the whole year, breeding there, and bringing out eight or nine young; but that the general system of draining pursued in Cambridgeshire, Norfolk, and Lincolnshire, has been the means of driving them away. Certain it is that now the Grey-lag Goose is comparatively a rare bird at any season, and whole winters pass away without a single example occurring in the London market, though the bird is well known to some who are constantly upon the look-out for it. A few specimens appeared in October 1837, and in January 1838, and I considered myself fortunate in obtaining two specimens in March 1840, at the common wild goose price, of a poulterer who did not know them as distinct from the Bean Goose. Montagu says they have been killed in open countries when feeding upon young green wheat; they feed also on the grasses, aquatic plants, and any sort of grain.

The Grey-lag Goose is considered to have bred formerly in Ireland, but is now a rare visiter there, even in winter. A specimen is occasionally obtained in Devonshire,* and the same may be said of it in Cambridgeshire, Norfolk, Durham, and Northumberland. This species visits both Orkney and Shetland in winter, but does not remain to breed there. Richard Dann, Esq. who has supplied me with interesting notes referring to many of the species of this extensive family of birds, more particularly as to their breeding ground and habits in Scandinavia, says, "On the inlets and islands from Bergen northwards, this Goose is not uncommon during the summer, particularly about Hitteren, where they are tolerably numerous early in August, and one of our party shot one there, which proved to be a very large gander. Their migration so far north, however, seems to be confined to the coast, never having met with them in Lapland, or in the northern parts of Sweden or Norway. They make their appearance in the Elbe at the latter end of August or the beginning of September, remaining there until October, and then go further south."

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* Montagu's collection of birds, as left by him, did not contain this species.

Professor Nilsson, who resides in the south-eastern part of Sweden, says, that a few pairs make their appearance there towards the end of April. The males leave the fens when the females begin to sit, and collect in flocks near or on the sea; the females conduct their young when they are ready to go. The eggs of this species are of a dull yellowish ivory white, smooth and shining, measuring three inches one line in length, by two inches and one line in breadth.

This species is said to go as far as Iceland in summer, and to most of the countries still farther north, but late observers do not include them among the birds of the Arctic regions, or of North America. The Grey-lag Goose is not common in Holland or France, but is said to be more abundant in Germany, and the central portions of Europe;

in Italy and Corfu. Said to be found in Northern Asia, China, and Japan.

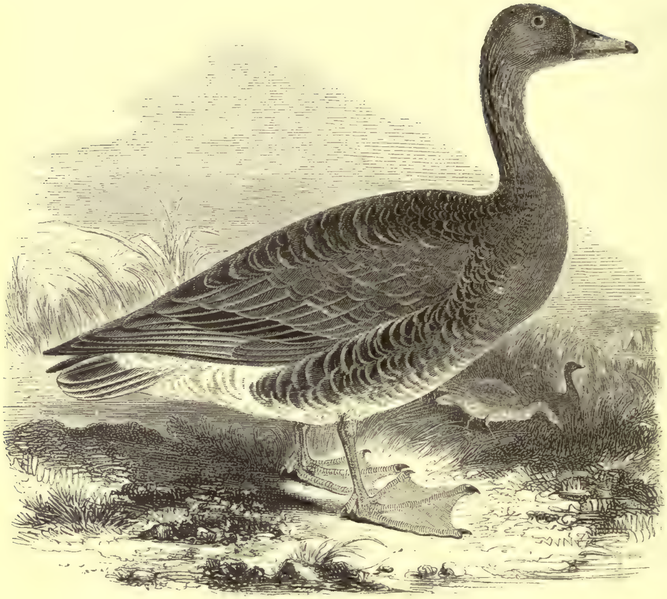
The beak is of a pink flesh colour, the horny nail at the extremity of each mandible white; the irides brown; the head, nape, back of the neck, and the upper part of the back, ash-brown, the latter named part with lighter coloured edges; inner portion of the wings, scapulars, and tertials lead-grey, with broad and lighter grey coloured margins; the point of the wing, both sets of upper wing-coverts, and all the feathers on the primary portion of the wing, except the quill-feathers beyond the first three, very light bluish-grey; the three outer quill-feathers also light grey; the rest dark lead grey, all with white shafts; the lower part of the back and the rump uniform light bluish-grey; upper tail-coverts white; tail-feathers lead-grey, tipped with white; chin, neck in front, and the breast, of a lighter grey colour than the back of the neck; the belly, and all the under surface of the body, white; sides, flanks, and thighs, barred with ash colour and greyish white; under tail-coverts, and the under surface of the tail-feathers, white; legs, toes, and membranes, dull flesh colour; the claws black.

The whole length of an adult male thirty-five inches; the wing, from the carpal joint to the end of the second quill-feather, which is the longest, seventeen inches and a half; the wings when closed scarcely reaching to the end of the tail. Both males and females have a hard callous knob at the point of the wing, which varies in size in the different species of Geese. The males in this genus are larger than the females. An adult female measured thirty inches in the whole length, and sixteen inches in the wing. Mr. Bartlett, who has paid great attention to the plumage of these birds, says, the young of this species are darker than the adults, but the grey colour of the shoulders and rump, the form of the bill, and the colour of the legs and feet, will always distinguish them from the young of any of the other species.

I have ventured to make an exception to the figure placed over the name of the Grey-lag Goose in Bewick's admirable work on our British Birds, believing it to have been taken from a specimen of the Bean Goose, as the black nail at the end of the beak, and the uniform colour of the wing, seem to indicate. His excellent figure of the tame Goose, at page 304, exhibits the characters of the true Grey-lag Goose, from which the stock is derived, in the conspicuous white nail to the beak, and the light coloured cinereous blue outer portion of the wing.

The Grey-lag Goose has bred with the Hooper Swan at the *Jardin des Plantes* in Paris, for a knowledge of which, and also of some other hybrid productions among the species of this extensive family of Water-fowl, I am indebted to M. Edm. de Selys-Lonchamps, of Liege, communicated during his recent visit to England. The Grey-lag Goose in a domestic state has also produced young in two instances by union with the Knobbed, or Swan Goose, *A. cygnoides ;* twice also with the Canada Goose, and once with the Bernicle Goose. It has been stated that when a union takes place between two different species of the genus Anser, both having light coloured legs, or both having black legs, the young are prolific; but when produced between two birds, one of which has light coloured legs, the other black legs, the young are not prolific.

NATATORES. *ANATIDÆ.*



THE BEAN GOOSE.

Anas segetum.

Anas segetum,	*Bean Goose,*	PENN. Brit. Zool. vol. ii. p. 233.
,, ,,	,, ,,	MONTAGU, Ornith. Dict.
,, ,,	,, ,,	BEWICK, Brit. Birds, vol. ii. p. 303, fig. p. 299.
Anser ferus,	*Wild* ,,	FLEM. Brit. An. p. 126.
,, ,,	*Bean* ,,	SELBY, Brit. Ornith. vol. ii. p. 263.
,, *segetum,*	,, ,,	JENYNS, Brit. Vert. p. 222.
,, ,,	,, ,,	GOULD, Birds of Europe, pt. xiv.
Anas ,,	*Oie vulgare,*	TEMM. Man d'Ornith. vol. ii. p. 820.
Anser ,,	,, ,,	,, ,, ,, pt. iv. p. 517.

THE BEAN GOOSE is principally a winter visiter to the British Islands, and from the numbers that are seen in that season of the year, is the most common, and the most numerous as a species among our wild geese, with the exception of the Brent Goose, to be hereafter noticed.

It has been ascertained that a few Bean Geese breed in some parts of this country, but the greater portion make their appearance in September and October, coming from Scandinavia, and from still higher northern latitudes. From the greater security against surprise, which an uninclosed country affords, these birds appear to prefer very large open fields. The Rev. Richard Lubbock sent me word that immense flocks are seen in the western parts of Norfolk. I remember to have seen flocks containing, apparently, several hundreds in that county, some years ago, in the month of September, where they feed on the extensive stubbles; I have been told lately, that these birds and the Pink-footed Goose visit Gloucestershire, and other parts in the vicinity of the Severn, as early as August.

During an excursion made by a party of naturalists in Sutherlandshire, in the summer of 1834, Mr. Selby says, "we were agreeably surprised to find that the Bean Goose annually breeds upon several of the Sutherland lakes. The first intimation we received of this interesting fact was at Lairg, where we were informed that a few pairs bred upon some islands about twelve miles up Loch Shin. We accordingly took boat the following morning, and, upon arriving at the place, discovered a single pair, attended by four or five young goslings. None were obtained, as the old birds being wild, escaped, seemingly uninjured, although repeatedly fired at, and the goslings immediately dived, and escaped into the reeds and other herbage. Upon Loch Naver we also found several pairs attended by their young, seemingly about a fortnight or three weeks old, one of which, after a severe chase, we procured. Upon the islands of Loch Laighal, from thirty to forty pairs, we were informed, annually had their nests. We saw several old birds, and the nests that had been used, which are concealed in heath upwards of three feet in height, that covers the islands. The eggs were all hatched, and most of the young had betaken themselves to the neighbouring moors, where they continue till able to fly, secreting themselves when disturbed, in the highest heather. At Tongue we saw some goslings about a month old (following a hen), which had been hatched from eggs taken at Loch Laighal. We were told they became nearly as tame as common geese, but refuse to intermix or breed with them. The eggs, from five to seven in number, are smaller than those of the common Goose, but of a similar shape and colour.

A few pairs, it is said, breed annually in Sunbiggin Tarn, near Orton, in Westmoreland, and the islands of Lewis and Harris, among the Hebrides, are also named as places regularly visited by Bean Geese in summer, where, according to Pennant, they feed on green corn to an injurious extent. A pair of Bean Geese belonging to the Ornithological Society of London, have this season produced a brood of five, in St. James's Park: the young were observed to grow very rapidly. The egg of a Bean Goose brought from Norway, and given me by Mr. Hewitson, is of a dull white; three inches five lines long, by two inches five lines in breadth. The eggs produced by the Bean Goose in the park were a little smaller. The Bean Goose is common during winter in Ireland, and in North Wales, but is more rare in the southern counties of England, increasing in frequency on going northward. Mr. Dann's note on this species is as follows:—" This Goose is said to be very numerous on the north-west coast of Norway. I have seen it in vast numbers on the Tornea river in September; and the young ones are often caught on the islands at the head of the Bothnian Gulph, and tamed. They arrive in the south of Sweden the latter end of March or the beginning of April, and remain about a month previous to their departure north. During their stay they keep amongst the dead reeds and rushes, feeding upon the roots and young shoots. I have never seen this Goose upon the coast in winter; but, as before stated, it is reported to breed in great numbers on the Norwegian coast."

Professor Nilsson says the Bean Goose is the most common species in Sweden, and is also spread over Finland, breeding upon the islands, and committing great ravages upon the green corn. Mr. Hewitson says the Bean Goose was rather numerous upon one of the large islands on the west coast of Norway, near the Arctic circle, where it had been breeding during the previous month. This species is said to visit the Faroe Islands, Iceland, and Greenland. It breeds also in great numbers at Nova Zembla.

M. Temminck says the Bean Goose is abundant in Holland, Germany, and France, but is more rare in the central portions of Europe. It is found also in Spain, Provence, and Italy. It is found also in winter in Sicily, and at Malta. M. Vieillot mentions that one of the names of this bird in France is, Harvest Goose, *Oie des moissons*, from its frequenting corn-fields, and the destructive effects of large flocks when feeding upon green corn. Our name of Bean Goose Mr. Selby thinks has been suggested by the decided partiality of the bird to pulse and grain.

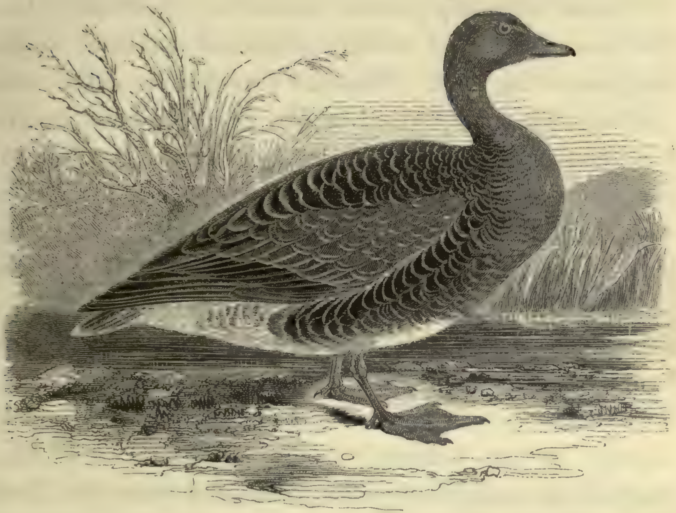
The bill is two inches and one quarter in length, nearly as long as the head; rather slender towards the end and pointed; the nail, edges, and base, black, the middle portion orange; irides dark brown; the head and neck, brown, tinged with grey; back and scapulars darker brown, slightly tinged with grey, each feather margined with greyish white; wing-coverts, secondaries, and tertials, greyish brown, edged and tipped with white; primaries dark brown tinged with grey; rump dark brown; upper tail-coverts white; tail-feathers dark brown, broadly edged with greyish white; neck in front, breast, and belly, dirty white; abdomen, vent, and under tail-coverts, pure white; legs, toes, and membranes, orange; the claws black.

The whole length of an adult male thirty-four inches. From the carpal joint to the end of the wing nearly nineteen inches; the second quill-feather the longest in the wing; the wings when closed reaching considerably beyond the end of the tail; point of the wing with a prominent callous knob hidden by the plumage.

Young birds of the year darker in the general colour of their plumage, and the markings less distinct, but with a tinge of orange colour about the neck.

Two or three young ones were produced in St. James's Park by the union of a Bean Goose with a Pink-footed Goose, next to be described.

Wild Geese, when on the wing together for any distance, are frequently observed to assume some particular figure. If there are only three or four birds, they mostly fly in a straight line one after the other; when more numerous, they assume a wedge-shaped form like the letter < placed horizontally, the angle in advance. The interval between the side lines sometimes occupied. Practice seems to have taught them that angular forms diminish atmospheric resistance.



THE PINK-FOOTED GOOSE.

Anser brachyrhynchus.

Anser phœnicopus,	*Pink-footed Goose,*	Bartlett, Proc. Zool. Soc. 1839, p. 3.
„ *brachyrhynchus,*		Baillon, „ „ „ „ p. 124.
„ „	*Oie à bec court,*	Temm. Man. d'Ornith. pt. iv. p. 520.

On the 8th of January, 1839, at the first evening meeting of the Zoological Society in that year, Mr. Bartlett exhibited several species of Geese in order to illustrate a paper which he communicated to the meeting on a new British species of the genus Anser for which he proposed the name of *phœnicopus*, on account of the pink colour of the feet, with remarks on the nearly allied species.

On the 10th of September, in the same year, a communication was received by the Zoological Society from M. Baillon, of Abbeville, stating that he had described in

1833, in the Memoirs of the Society of Emulation of Abbeville, a new species of Goose, to which he had given the name of *brachyrynchus*, because it appeared to him that one of its most striking characters consisted in the shortness of its beak. This bird proved to be of the same species as the one described by Mr. Bartlett; but I believe I am correct in stating that at the time Mr. Bartlett proposed his name for this new Goose in 1839, no one here was aware that M. Baillon had described and named the same species in the Memoirs of the Society of Emulation of Abbeville, in 1833. M. Baillon's name, of course, has the precedence, and will be adopted by others, as it has been by M. Temminck.

This new species, for the first notice of which, in this country, we are indebted to the discrimination of Mr. Bartlett, is considerably smaller in size than the Bean Goose last described, but otherwise so like it in general appearance, that there is little doubt it has frequently been mistaken for the young bird of that species; but on comparative examination it is at once distinguished by the smaller and shorter beak, and the pink colour of the legs and feet. Little is known of the particular habits of this new species in a wild state, but M. Temminck mentions that three specimens kept in a domestic state with others of the Grey, the Bean, and White-fronted species, did not associate with either of them, but kept together by themselves.

The same habit has been observed of this species in two instances in this country. The Zoological Society have had a male for several years which has never associated with any of those of the various other species with which it has been confined. The Ornithological Society has a female which, during the summer of 1840, would not associate with any of the various species kept with her in St. James's Park, yet she laid eight eggs, and began to sit, but from which of course there were no proceeds. The eggs were rather less than those of the Bean Goose, of a pure white colour, and measuring three inches and one eighth in length, by two inches and a quarter in breadth.

This season the Zoological Society have allowed their male to be transferred to St. James's Park; but though the pair were soon good friends, there is as yet no produce. Young birds have been produced since.

The voice of the Pink-footed Goose differs from that of the Bean Goose in being sharper in tone, and the note is also repeated more rapidly. These Geese were not uncommon in the London market during the winters of 1838, 39, and 40.

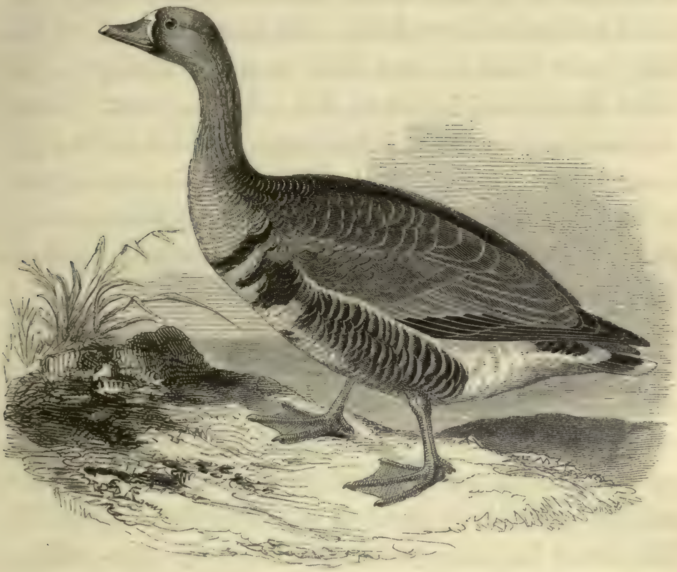
In January of the present year, 1841, I was favoured with a letter from the Hon. and Rev. Thomas Keppel, of Warham Rectory, near Holkam, informing me that a Pink-footed Goose had been killed by his nephew, Lord Coke, at Holkam. This bird was shot out of a flock of about twenty, but nothing particular was observed in their flight or habits.

There is little or no doubt that this species will be found breeding in some of the localities frequented by the Bean Goose. At a meeting of the Wernerian Natural History Society, held in Edinburgh on the 28th November 1840, Dr. Neill, the secretary, read a communication from Mr. Macgillivray, stating that the Pink-footed, or Short-billed Goose, *Anser brachyrhynchus*, occurs occasionally on the stalls of the poultry market there.—Edin. New. Phil. Journ. No. 59, p. 213.

The bill is but one inch and five eighths in length, considerably shorter than the head, narrow, and much contracted towards the tip; the nail, and the space from the nostrils to the base black, the intermediate space pink; the irides dark brown; head and neck dark ash-brown, the colour becoming lighter towards the lower part of the neck; back, wing-coverts and tertials, brownish-grey, edged and tipped with dull white; primary quill-feathers lead-grey, with white shafts; the secondaries still darker, almost bluish-black; rump greyish ash colour; upper tail-coverts white; tail-feathers grey, edged and tipped with white; neck in front, breast, and belly, pale ash-brown, with lighter coloured edges; sides, flanks, and thighs, grey, broadly tipped with pale brown; vent, under tail-coverts, and under surface of the tail-feathers white; legs, toes, and membranes pink, tinged with vermilion, in colour like those of the Egyptian Goose; the claws black; the hind toe short; the membranes of the feet thick and fleshy,

The whole length of an adult male twenty-eight inches. From the carpal joint to the end of the second quill-feather, which is rather the longest in the wing, seventeen inches and a half; the carpal joint of the wing furnished with the usual hard knob; the wings when closed reach an inch or more beyond the end of the tail.

In the recently published September number of the Annals and Magazine of Natural History, it is stated in a paper on the Zoology of the outer Hebrides by Mr. J. Macgillivray, "that the Pink-footed or Short-billed Goose breeds in great numbers in the small islands of the Sound of Harris, as well as those of the interior of North Uist. This bird was seen in flocks so late as the beginning of May, was observed in pairs among the islands in the Sound about the middle of the month, and had the young fully fledged and strong upon the wing about the end of July."



THE WHITE-FRONTED GOOSE,

OR LAUGHING GOOSE.

Anser albifrons.

Anas albifrons,	*White-fronted Goose,*	Penn. Brit. Zool. vol. ii. p. 235.
,, ,,	,, ,,	Mont. Ornith. Dict.
,, ,,	,, *Wild Goose,*	Bewick, Brit. Birds, vol. ii. p. 311.
Anser erythropus,	*Laughing Goose,*	Flem. Brit. An. p. 127.
,, ,,	*White-fronted Wild Goose,*	Selby, Brit. Ornith. vol. ii. p. 266.
,, *albifrons,*	,, *Goose,*	Jenyns, Brit. Vert. p. 223.
,, ,,	,, ,,	Gould, Birds of Europe, pt. xii.
Anas ,,	*Oie rieuse, ou à front blanc,*	Temm. Man. d'Ornith. vol. ii. p. 821.
Anser ,,	,, ,, ,, ,,	,, ,, ,, pt. iv. p. 518.

The White-fronted, or Laughing Goose, may be considered a regular winter visiter to this country, not usually so numerous as the Bean Goose, but occasionally appearing in very large flocks, and in some proportion to the severity of the weather. This species frequents marshes and morasses, rather than corn fields ; and birds examined by Mr. Selby were found to have their stomachs filled with the tender shoots and leaves of the common clover. These birds are not uncommon in the shops of the London poulterers from November till March, and are in some request for the table as one of the best among the different sorts of wild Geese. They are not known to remain to breed in any part of this country in their natural wild state, that I am aware of; but a pair in the Gardens of the Zoological Society have this season brought forth their brood from one of the islands in the pond to which they are restricted, and show great anxiety for the safety of their young. The egg is white, tinged with buff, and measures two inches ten lines in length, by one inch and eleven lines in breadth. This Goose has also produced a brood by union with a Bernicle Goose.

This species is a regular winter visiter to Ireland, and is occasionally killed in Wales. Large flocks were seen in Cornwall and Devonshire, during the winter of 1829-30, which frequented turnip-fields. It has been frequently killed in Hampshire, Sussex, Kent, Cambridgeshire, Suffolk, Norfolk, Durham, and Northumberland Sir William Jardine killed two in Dumfriesshire with his rifle in February 1845. I can find no records of its appearance in Orkney or Shetland. Mr. Richard Dann's note to me on this species is as follows :—

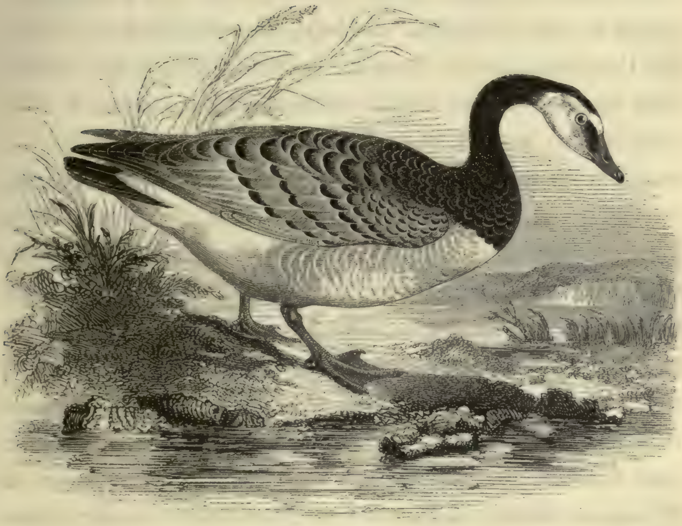
"This is the Common Goose in Lapland, and by the Laps called the Mountain Goose from its frequenting more elevated districts than the Bean Goose. It breeds in small numbers south of Juckasiervi, in Tornea Lapland, but not further west than Killingsuvanda. It appears in great numbers in the spring at Quickiock, but does not breed there. None of the western parts of Swedish Lapland are adapted either for Sandpipers or the Duck tribe, the lakes being generally rocky, and the swamps not of sufficient extent. The young ones are easily tamed, and are caught in great numbers by the Laps, with the old ones in a moulting state and unable to fly, in July. In Sweden Professor Nilsson says this Goose is seen from spring to autumn, becoming gregarious in September and October, in the marshes near the sea. Acerbi, in his Travels through Finland and Lapland, mentions having shot some White-fronted Geese near Kautokeino in Lapland, and it is recorded as visiting the Faroe Islands and Iceland. The White-fronted, or Laughing Goose, described long ago, as well as figured by Edwards, plate 153, was from a specimen brought from Hudson's Bay, where, however, it is not common. Of its habits in North America, Dr. Richardson observes, that " the Laughing Goose travels in great flocks through the fur-countries, eight or ten days later than the Canada Goose, and breeds on the coasts and islands of the Arctic Sea, north of the 67th parallel of latitude. The autumn migration southwards commences early in September; and its return at that season to the fur districts is often the first indication of winter having begun within the Arctic Circle. The Indians imitate the call of this Goose by patting the mouth with their hand while they repeat the syllable *wah*. The resemblance of this note to the laugh of a man has given one of the trivial names to this species. It passes on towards the United States, in advance of the Canada Goose; and Mr. Audubon says that it arrives before the latter in Kentucky, where many of the species winter; but many also, he is convinced, go entirely to the southward of the United States' boundary.

East of our own country the White-fronted Goose visits Holland, Germany, and France, and is included by M. Savi among the Birds of Italy. M. Menetries, the Russian naturalist, mentions that in autumn this species makes its appearance in considerable flocks near the Caspian Sea, particularly at Bakou, and the lakes in that vicinity, where they pass the winter. Towards the end of February they commence their emigration. It is found in China; and M. Temminck says this species is found in Japan.

The bill is of a reddish flesh colour, the nail white; at the base of the upper mandible, and on the forehead, the feathers are white; the irides very dark brown; head, neck, back, rump, and wings, brownish ash colour; wing-coverts grey, edged with white; tertials margined with dull white; wing-primaries and secondaries bluish black; upper tail-coverts white; tail-feathers dark grey tipped with white; breast and belly pale brownish white, both sexes with patches and broad bars of black; sides and flanks ash-brown, edged with dull white; vent and under tail-coverts white; legs, toes, and membranes orange; claws whitish horn colour.

The whole length of an adult male twenty-seven inches. From the carpal joint to the end of the wing seventeen inches; the second quill-feather the longest in the wing.

The plumage of young birds of the year is more uniform in colour and rather dark, the feathers at the base of the upper mandible are of a darker brown than those of the other parts of the head; the nail and point of the beak light brown. The pale brown feathers on the breast are uniform in colour without any dark patches or bars.



THE BERNICLE GOOSE.

Anser leucopsis.

Anas erythropus,	*Bernacle Goose,*	PENN. Brit. Zool. vol. ii. p. 237.
" "	" "	MONTAGU, Ornith. Dict.
" "	" "	BEWICK, Brit. Birds, vol. ii. p. 319.
Anser bernicla,	" "	FLEM. Brit. An. p. 127.
" "	*Bernicle* "	SELBY, Brit. Ornith. vol. ii. p. 268.
" *leucopsis,*	*Common Bernicle Goose,*	JENYNS, Brit. Vert. p. 224.
" "	" "	GOULD, Birds of Europe, pt. xii.
Anas "	*Oie bernache,*	TEMM. Man. d'Ornith. vol. ii. p. 823.
Anser "	" "	" " " pt. iv. p. 520.

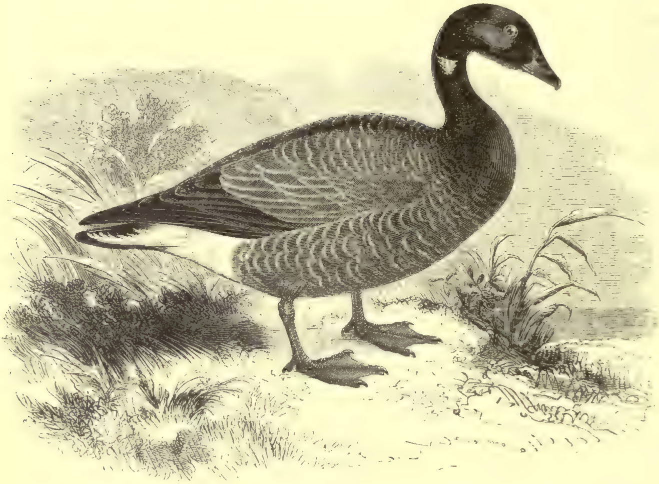
THE BERNICLE GOOSE is another winter visiter to the British Islands, appearing in considerable flocks, particularly when the weather is severe, and is considered to be more abundant on the western coasts than on those of the east; they are naturally wild and shy, but when made captive they very soon become as familiar as our domestic Geese, and have lived a very long time in confinement, in one instance as much as thirty-two years. In a communication to the Zoological Society, from the Earl of Derby, the President, dated Prescot, in May 1840, it was stated that on the "Great Water of his lordship's park, a Bernicle Goose paired with a White-fronted Goose, and a brood were hatched out." A small flock of Bernicles, consisting of one gander and four geese, have been kept for several seasons on the canal in St. James's Park by the Ornithological Society, and young ones produced in the years 1844 and 45. This species is a regular winter visiter to Ireland, and has been taken there in the north, north-east, at Dublin, and in the south. Mr. Selby says it is sometimes abundant on the Lancashire coast, and in the Solway Firth. It has occasionally been taken in Wales, in Cornwall, Devonshire, Dorsetshire, Sussex, Cambridgeshire, Norfolk, and in Northumberland. They are observed to frequent marshes on the coast, where they feed on the grasses, and the tender parts of aquatic plants. The flesh is of good flavour, and the birds are not uncommon in the shops of our London poulterers, from November to February, about which time they take their departure for more northern latitudes, in which they produce their young. Their nesting habits are little known; but the eggs laid by the birds in the park were white; two inches and three-quarters long, by one inch and seven eighths in breadth. Mr. Dann's note in reference to this species, says, "A skin of this Goose was shown me by some Laps near Gillivara, who were ignorant of the bird, never having seen it before. It was shot at Killingsuvanda. It migrates in vast numbers along the western coast of Norway, from the Naze of Norway northwards, where it generally seems to make the land after leaving the Danish coast. I suspect the shores of the White Sea, to the eastward, are the great breeding places of this bird. They appear in vast numbers on the coast of Scona in October and November, but their flight is generally along the coast of the Baltic. This Goose is said to visit the Faroe Islands in summer: Faber includes it as a bird of Iceland; and it is sometimes found at Hudson's Bay. It is said to breed in Russia. M. Temminck mentions it as abundant in Holland, but less common in Germany and France. Polydore Roux includes it among his birds of Provence. M. Temminck says that this species inhabits Japan and northern Asia.

This very prettily marked Goose has the beak, and a stripe from the beak to the eye, black; the length of the beak one inch and three-eighths; the irides dark brown; the forehead, cheeks, and chin, white; top of the head, nape, all the neck and interscapulars, black; scapulars, point of the wing, both sets of wing-coverts, and tertials, French grey, tipped with a crescent of bluish-black, and an extreme edge of white; primaries almost black; rump bluish-black; upper tail-coverts white; tail-feathers almost black; breast and belly greyish-white; vent and under tail-coverts pure white; flanks and thighs tinged with grey in bars; legs, toes, membranes, and claws black.

The whole length of an adult male twenty-five inches. From the blunt spur at the carpal joint to the end of the first quill-feather, which is the longest in the wing, sixteen inches.

Young birds have the white of the cheeks varied with black feathers; the ends of the feathers on the back and wing-coverts tinged with red; the flanks barred with darker grey, and the legs less decidedly black.

NATATORES. *ANATIDÆ.*



THE BRENT GOOSE.

Anser torquatus.

Anas bernicla,	*Brent Goose,*	Penn. Brit. Zool. vol. ii. p. 239.
,, ,,	,, ,,	Montagu, Ornith. Dict.
,, ,,	,, ,,	Bewick, Brit. Birds, vol. ii. p. 317.
Anser brenta,	,, ,,	Flem. Brit. An. p. 127.
,, ,,	,, ,,	Selby, Brit. Ornith. vol. ii. p. 271.
,, *torquatus,*	,, ,,	Jenyns, Brit. Vert. p. 224.
,, *brenta,*	,, ,,	Gould, Birds of Europe, pt. xvii.
Anas bernicla,	*Oie cravant,*	Temm. Man. d'Ornith. vol. ii. p. 824.
Anser ,,	,, ,,	,, ,, ,, pt. iv. p. 522.

Of the various species of Geese that visit the British Islands, this is the smallest as well as the most numerous, and possesses also for us the agreeable advantage of being a good bird for the table. It is a regular winter visiter to the shores of most of our maritime counties, and remains with us through all the cold months of the year, particularly on the east and south coast. It is seldom seen on fresh water in the interior, unless wounded; but is truly a marine species, passing a great portion of the day and night out at sea, at other times frequenting extensive muddy flats and sand bars on the sea-shore, which are exposed at every ebb tide, and the birds make their appearance at these their feeding places, as soon as, or even a short time before the water leaves the ground exposed, remaining there, if undisturbed, till the tide flows over the ground again. In such situations the large flocks that frequent certain favourite localities are quite extraordinary.

The author of Wild Sports in the West of Ireland says, "they come here in immense multitudes; I saw from the window a considerable extent of sand literally black with this migratory tribe;" and they are equally numerous on other parts of the Irish coast.

Colonel Hawker, in his very amusing Instructions to young sportsmen, referring to Wild Fowl shooting on the coasts of Dorsetshire and Hampshire, observes, "towards November or December, we have the Brent Geese, which are always wild, unless in very hard weather. In calm weather these Geese have the cunning in general to leave the mud as soon as the tide flows high enough to bear an enemy; and then they go off to sea, and feed on the drifting weeds. To kill Brent Geese by day, get out of sight in a small punt, at low water, and keep as near as possible to the edge of the sea. You will then hear them coming like a pack of hounds in full cry, and they will repeatedly pass within fair shot, provided you are well concealed, and the weather is windy to make them fly low. Before you fire at them, spring suddenly up, and these awkward birds will be in such a fright as to hover together, and present a mark like a barn door. The Brent Geese, when fat, are excellent eating birds."

The London markets are abundantly supplied with these Geese, and a few may be seen in almost every poulterer's shop in the winter. The authors of the Catalogue of Norfolk and Suffolk Birds also mention, that the cry of a flock of these birds much resembles the noise of a pack of hounds, and they had twice been deceived by it.

Upon the Northumbrian coast, Mr. Selby observes, "a very large body of these birds annually resorts to the extensive muddy and sandy flats that lie between the mainland and Holy Island, and which are covered by every flow of the tide. This part of the coast appears to have been a favourite resort of these birds from time immemorial, where they have always received the name of *Ware Geese*, given to them, without doubt, in consequence of their food consisting entirely of marine vegetables. This I have frequently verified by dissection; finding the gizzard filled with the leaves and stems of a species of grass that grows abundantly in the shallow pools left by the tide, and with the remains of the fronds of different algæ, particularly of one, which seems to be the *Laver* (*Ulva latissima*). In this haunt they remain till the end of February, when they migrate in successive flocks, as the individuals happen to be influenced by the season, and before April the whole have disappeared. When they depart, the same procedure as that mentioned by Wilson, in his American Ornithology, takes place; the flock about to migrate rises high into the air by an extensive spiral course, and then moves off seaward in a northerly direction."

This species is included by Mr. Macgillivray among the Birds of the Hebrides, and in Shetland it is called Horra

Goose, from the numbers that frequent Horra Sound, but none remain during summer. Mr. Dann's note on this species is as follows. "I could get no information respecting the Brent Goose in Lapland, it being unknown to the colonists and Laps. I have seen and shot them in the neighbourhood of Gottenburgh in the autumn, but they are not known to pitch often except on the coast. This Goose is more of a sea bird than the rest of the tribe, keeping much in narrow tide ways, and feeding on the drift weed. They are very abundant among the Danish islands in November and December."

The Brent Goose is found during summer at the Faroe Islands, and at Iceland. Dr. Richardson says, this neat small Goose is very numerous on the coast of Hudson's Bay, in its passage to and from the north. Captain James Ross states that it did not remain near Felix Harbour, Boothia, to breed, but went still farther north; and that it is found during the summer months in the highest northern latitudes that have been visited. It was found breeding on Parry's Islands, in latitude 74°, 75°.

Eggs brought home by some of our northern voyagers were of a greyish white colour, and measured two inches and three-quarters in length, by one inch and three-quarters in breadth. The bird is well known to the ornithologists of the United States: and Mr. Audubon says they have produced their young in captivity, but the birds kept in St. James's Park, and at the Zoological Gardens, do not breed.

Captain Scoresby, in his account of the Arctic Regions, reports that the Brent Goose occurs in considerable numbers near the coast of Greenland; but is not seen in any quantity at Spitzbergen. In K. E. Von Baer's description of Animal life in Nova Zembla, a translation of which appeared in the fourth volume of the Annals of Natural History, it is observed, "Among the web-footed birds which pass the season here, the Bean Geese are so common, at least in the southern island, that the collecting their fallen wing-feathers is an object of profit; according to the assertions of the Walrus-catchers, only one species of Goose comes to Nova Zembla, and we in fact got sight of no other than the Bean Goose, and the Brent Goose, which latter, however, does not pass for a Goose among the Russians. The web-footed herbivorous birds, however, collect in much greater numbers upon the island of Kolgujew, which is described as covered with Swans and Geese, than in Nova Zembla, where the vegetation is too scanty. On this account expeditions are sometimes sent hither to kill and salt these birds. A merchant of Archangel told me that once fifteen thousand Geese were killed here in two hunts.

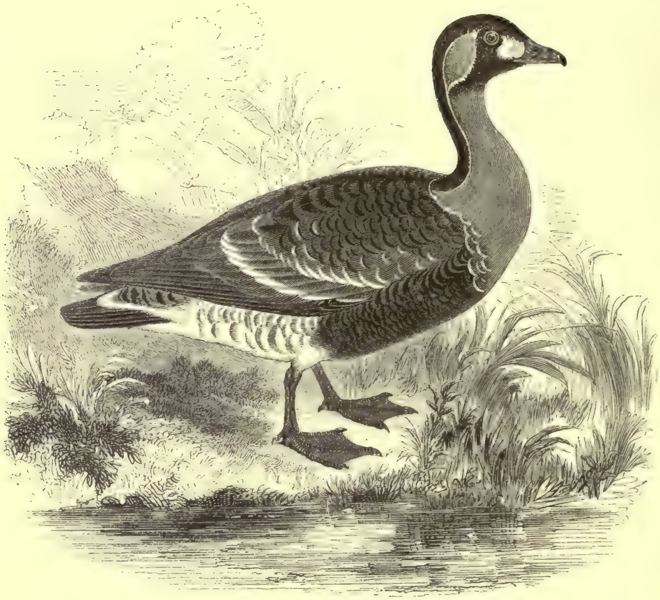
In the adult male the bill is black, and only one inch and a half in length; the irides very dark brown, almost black; the forehead low, the head small and black; the neck all round black, except a small patch on each side, which is white, but mixed with a few regularly placed black feathers; back, scapulars, wing-coverts, and tertials, dark brownish black, the edges a little lighter in colour; primary and secondary quill-feathers black; the rump black; upper tail-coverts white; tail-feathers black; upper part of the breast black; lower portion of the breast and the belly slate-grey, with lighter coloured margins; vent and under tail-coverts white; legs, toes, membranes, and claws black.

The whole length twenty-one inches. From the carpal joint to the end of the wing thirteen inches; the first quill-feather the longest in the wing.

Females are a little smaller than males, and have their plumage tinged with brown.

Young birds of the year have little or no white patch on the sides of the neck; head and neck dusky lead-grey; the feathers of the body edged with brown; belly and flanks light grey.

NATATORES. *ANATIDÆ.*



THE RED-BREASTED GOOSE.

Anser ruficollis.

Anas	*ruficollis,*	*Red-breasted*	*Goose,*	PENN. Brit. Zool. vol. ii. p. 241.
„	„	„	„	MONTAGU, Ornith. Dict.
„	„	„	„	BEWICK, Brit. Birds, vol. ii p. 297.
Anser	„	„	„	FLEM. Brit. An. p. 128.
„	„	„	„	SELBY, Brit. Ornith. vol. ii. p. 275.
„	„	„	„	JENYNS, Brit. Vert. p. 225.
„	„	„	„	GOULD, Birds of Europe, pt. xvi.
Anas	„	*Oie à cou roux,*		TEMM. Man. d'Ornith. vol. ii. p. 826.
Anser	„	„ „ „	„	„ „ „ pt. iv. p. 522.

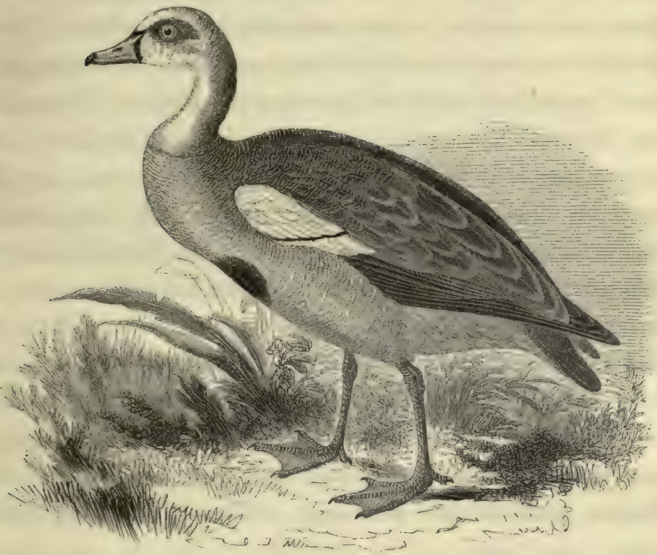
BUT little is known of the habits of this beautiful species, which appears to be very rare, except in the extreme northern parts of Asia and Siberia, its migrations in summer extending to the shores of the Frozen Ocean, where it is said to breed and rear its young. According to M. Temminck it is found about the estuaries of the rivers Ob and Lena. Professor Nilsson mentions two instances only in which this bird has been obtained in Scandinavia, once in 1793, and once in 1830. Its migrations are said to have been more regularly observed in Denmark; and Faber includes it in his Prodromus of the Ornithology of Iceland. It appears to have been obtained more frequently in England than in any of the countries around it. The first example was taken near London during the severe frost of 1766. This specimen passed into the possession of Mr. Tunstall, and is now preserved in the Museum of Newcastle-upon-Tyne. Another was captured alive in Yorkshire about the same time, soon became tame, and was kept with some ducks in a pond. A third was killed near Berwick-upon-Tweed, and formed part of Mr. Bullock's celebrated collection. This specimen is now preserved in the British Museum. The authors of the catalogue of Norfolk and Suffolk Birds state, that Mr. Wigg had a specimen of this rare Goose, which was killed at Halvergate in Norfolk, in the year 1805. He says its flesh was well-flavoured. It has been elsewhere noticed that the flesh was free from any fishy taste, and in great esteem for the table. Other specimens are stated to have been killed in Cambridgeshire during the severe winter of 1813; and Dr. Edward Moore, in his Catalogue of the Birds of Devonshire, has recorded two instances of this Goose having been obtained in that county. One was shot on Kenton Warren in 1828, and is now in the possession of Mr. W. Russell, at Dawlish: the second was killed on Teign marshes, February 1st, 1837, by Rendell of Buckland, and was prepared and preserved by Mr. Drew. But one example is mentioned by M. Temminck as having been killed in Holland; but one in France, recorded by

M. Vieillot as having been killed near Strasbourg; and one in Germany, included in the Histories of the Birds of that country by Wolfe and Meyer, and by Mr Brehm.

M. Menetries, in his Catalogue Raisonné of objects in Zoology observed by the naturalists attached to the Russian expedition to the vicinity of the Caucasus and the frontiers of Persia, says, that in 1828 a considerable flock of this species appeared at Leukoran, probably driven there by strong winds; they were so exhausted by fatigue that they were caught by hand, and many were preserved in captivity, to which they were easily reconciled. They always kept together, and uttered a gentle call-note when any one of their party separated from the others, or when a bird of prey hovered over them: this was the only sound that was heard. Of the food placed before them they preferred green vegetables to grain, and drank often.

In the adult bird the beak and the nail are almost black: the irides hazel; between the beak and the eye a white patch; round the eye, the top of the head, and down the back of the neck, dark brownish-black; on the ear-coverts an angular patch of chestnut surrounded with white, ending in a white streak passing downwards; upper surface of the body and wings very dark brown, almost black; wing-coverts edged with greyish-white; upper tail-coverts white; primaries and tail-feathers black; throat dark brown; neck and upper part of the breast rich chestnut red, ending with a collar of white: lower part of the breast black; belly, vent, and under tail-coverts white; the flanks barred with dark brown; legs, toes, and their membranes, dark-brown, almost black.

The whole length twenty-one or twenty-two inches. From the carpal joint to the end of the wing fourteen inches.



THE EGYPTIAN GOOSE.

Anser Egyptiacus.

Anas Egyptiaca,	*Egyptian Goose,*	Bewick, Brit. Birds, vol. ii. p. 315.
Anser Egyptiacus,	„ „	Jenyns, Brit. Vert. p. 225.
Chenalopex Egyptiaca,	„ „	Gould, Birds of Europe, pt. xxi.
Anser Egyptiacus,	*Oie Egyptienne,*	Temm. Man. d'Ornith. pt. iv. p. 523.

It is only lately that the Egyptian Goose has been admitted into the histories and catalogues of our British Birds, and even now exceptions are occasionally made to it, on the ground that the specimens, though killed at large, or apparently in a wild state, had probably escaped from the waters of parks or pleasure grounds, where they had been bred and fostered on account of the beauty of their plumage. Their appearance, however, thus at large, the feathers exhibiting no marks of confinement, occurs so frequently, in so many different localities, and more particularly in such numbers, a flock of about eighty having been seen together on one occasion in Hampshire; these facts, in conjunction with the statement of M. Temminck, that he had not admitted it among the Birds of Europe in his Manual, till he had ascertained to a certainty the appearance of individuals in a wild state in several parts of southern Europe, seem to justify recording it also among the occasional visiters to this country. M. Temminck says this species inhabits the whole of Africa from the north to the middle; it is found also in Turkey, visits the mouths of the Danube, and occasionally the islands of the Grecian Archipelago; has been killed in Sicily, and it is said, also, in several parts of Germany. M. De Selys-Lonchamps sent him word that a specimen had been killed upon the Meuse, and another at Liege. Three have also been killed near Metz.

The breeding habits of this bird, in a wild state, are, I believe, but little known: they hatch and rear their young without difficulty in confinement, and have bred several seasons in succession in the gardens of the Zoological Society. The eggs are of a dull white, tinged with buff colour, two inches nine lines in length, by two inches in breadth. The editor of the Naturalist says, "the Egyptian Goose quacks in a manner somewhat similar to the Mallard Duck, but the note is more like barking." Vol. ii. p. 385.

In the summer of 1838, an Egyptian Goose, in the garden of the Zoological Society, paired with a Penguin Drake,* and the eggs were productive. The same two birds were kept together in the following season, and the result was, more productive eggs. The young birds were preserved, and kept by themselves experimentally. In the following season many eggs were produced between these hybrid brothers and sisters, the females sat steadily but the eggs were not productive, and those examined exhibited no appearance of embryotic formation. An Egyptian Goose has bred with the Knobbed or Swan Gander (*A. cygnoides*), and with the Spur-winged Gander (*A. gambensis*), with the Dublin Zoological Society in the Phœnix Park.

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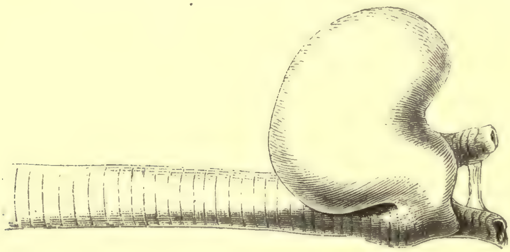
* The Penguin Duck, so called from its walking nearly upright, is only a variety of the Common Domestic Duck.

Besides various instances of single specimens of the Egyptian Goose having been obtained in this country, a flock of five were seen on the Fern islands in April 1830. A small flock visited the Tweed in February 1832. Three were shot at Campsie, near Glasgow, in November 1832. Mr. Wallace, of Douglas, sent me word that a flock of nine were seen in the Isle of Man, in September 1838. This species has been killed in Ireland. Four were shot on the Severn, near Bridgewater, in February 1840; two were shot in Dorsetshire, in 1836; and Colonel Hawker mentions "two killed in Norfolk, and three at Longparish in Hampshire, in the winter of 1823; and the next year again, during some tremendous gales from the west, a flock of about eighty appeared near the same place, when two more were killed."

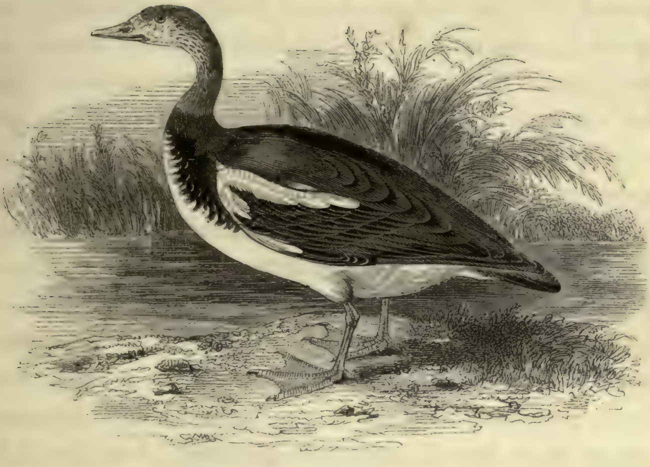
The beak in the centre is pale brown; the nail, the margins, and the base dark brown; the irides wax yellow; round the eye a patch of chestnut brown; cheeks and sides of the neck pale rufous white; forehead, crown of the head, back of the neck, the back, scapulars and tertials, rich reddish-brown; the carpal portion of the wing, the smaller and the larger wing-coverts white; the smaller coverts tipped with black; the wing-primaries almost black, tinged with green; the secondaries tinged with reddish-bay, and edged with chestnut: the lower part of the back, the rump and tail, nearly black; front of the neck, the breast, and upper part of the belly, pale rufous brown, a patch on the breast chestnut brown; lower part of the belly and the vent pale brown; the legs and feet pink.

The whole length of an adult male about twenty-six inches. The distribution of colours are the same in females as in males, but the tints are less bright and pure. The wing is furnished with a short blunt spur at the wrist.

The tube of the windpipe is about twelve inches long, nearly cylindrical in form throughout; but unlike those of the other Geese, the male has a hollow bony enlargement, half as thick as it is wide; at the bottom of the tube on the left side, as shown in the vignette below, where the lower portion of the windpipe, the bony enlargement, and the short depending bronchial tubes, the last slightly connected by a thin slip of membrane, are figured of the natural size. The view is taken with the tube and its enlargement in the natural position, the breast-bone being removed, as in the case of the view of the windpipe of the Spoonbill figured in the second volume, page 570.



NATATORES. *ANATIDÆ.*



THE SPUR-WINGED GOOSE,

OR GAMBO GOOSE.

Anser gambensis.

Anas Gambensis,	*Spur-winged Goose,*	Bewick, Brit. Birds, vol. ii. p. 313.
Anser ,,	*Gambo Goose,*	Flem. Brit. An. p. 128.
,, ,,	*Spur-winged Goose,*	Jenyns, Brit. Vert. p. 226.

A specimen of this African Goose, killed in Cornwall in June 1821, was presented to Mr. Bewick by Mr. Henry Mewburn of St. Germain's, near which place it was shot. The figure in Bewick's work on our British Birds was taken from this specimen, which is now deposited in the Museum at Newcastle.

G. T. Fox, Esq. in his Synopsis of the contents of the Newcastle Museum, gives the following particulars of the capture of this British killed specimen, which were supplied by Mr. Mewburn. "When first seen, it was in a field adjoining the cliffs, at Port Wrinkle, a small fishing place, about four miles from St. Germain's, near which it remained for two or three days. Being several times disturbed by attempts to shoot it, it came more inland, to a low situated farm, called Pool, and there associated with the Common Geese; but was wild, and immediately took wing upon being approached. Here it kept to and fro for a day or two, but being much disturbed, left, and came down upon the shore of the St. Germain's river, or estuary, when the following day, the 20th of June 1821, it was shot by John Brickford in a wheat field at Sconner, about a mile from St. Germain's. When killed, it was in the most perfect state, having only one shot in the head. Some gentlemen who saw it the following day, requested him to let me have it, which he promised; but though he knew I was a bird stuffer, he had a wife, who, from some strange infatuation, thought she could stuff it; but being soon convinced of her inability, she cut off the wings for dusters, and threw the skin away; and it was not till three weeks afterwards that I heard of the circumstance, when I sent a servant, who brought it covered with mud, the head torn off, but luckily preserved, as also one wing, when I had it washed, and put it together as well as I was able. The skin, in this state, was obligingly forwarded to Newcastle by Mr. Mewburn, for Mr. Bewick's use, from whence it passed into Mr. R. Wingate's hands, who has most ably reset it, and thus preserved one of the most uncommon ornithological rarities ever known in England."

The bad management of the skin in the first instance explains Mr. Couch's remark on this bird in his Cornish Fauna; namely, "one specimen only is on record, and that was mutilated when ascertained."

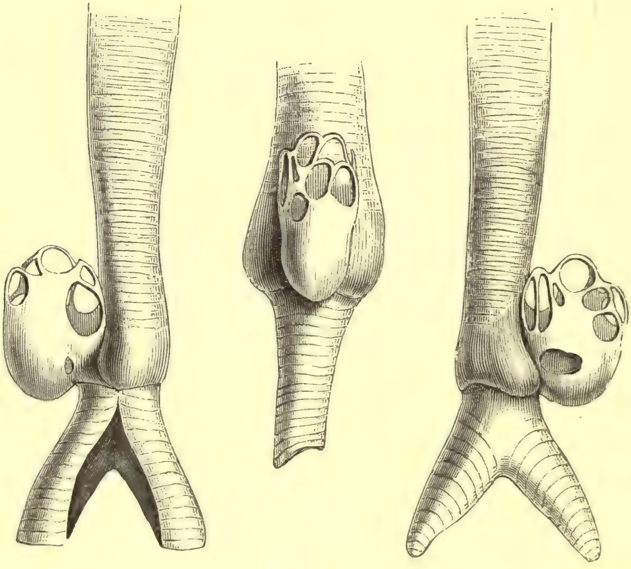
Mr. Bewick's description of the specimen at Newcastle is as follows:—"The bill is reddish-yellow, with a jointed protuberance on the base of the upper mandible. The upper part of the head and neck are dingy brown; the auriculars and sides of the throat are white, spotted with brown; the lower part of the neck, sides of the breast, and all the upper plumage appear black, but this colour is lost, particularly in the scapulars and tertials, which are most resplendently bronzed and glossed with brilliant green, and most of the outer webs of the other feathers partake of the same hue; on the bend of the wing or wrist, is placed a strong white horny spur, about five-eighths of an inch in length, turning upwards, and rather inwards; the whole of the edges of the wing from the alula spuria to the elbow and shoulder are white, all the under parts the same. This beautiful bird is nearly of the bulk of the Wild Goose, but its legs and toes are somewhat longer, and of a red or orange yellow."

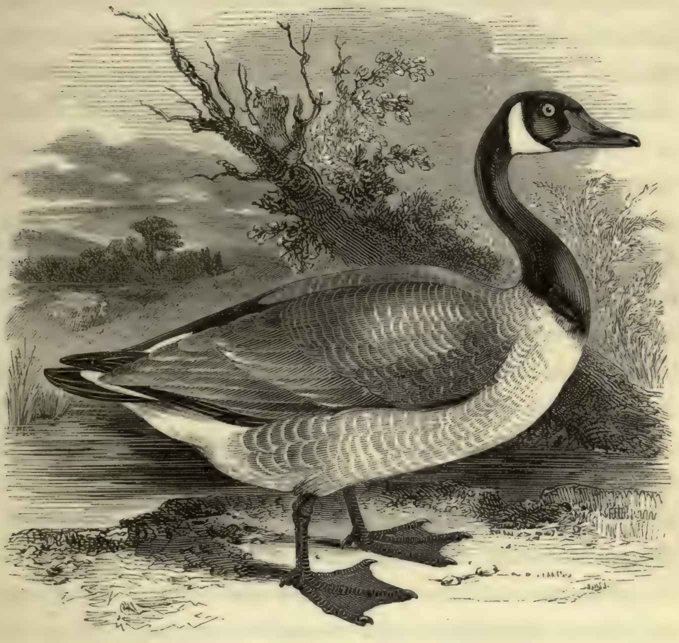
To give the actual appearance of the British killed specimen our figure is taken from Mr. Bewick's work.

This species is a native of northern and western Africa, but its habits are unknown. A male in the collection of the Dublin Zoological Society paired with an Egyptian Goose as already mentioned.

A male specimen died lately in the gardens of the Zoological Society, after living there in confinement nearly twelve years. Advantage was taken of this opportunity to examine the organ of voice, generally found to possess some remarkable variety in form and structure throughout most of the species of this extensive family; and the expectation was fully realised. By permission of the council of the Zoological Society, I am enabled to publish the following description and figures.

The windpipe of the Spur-winged Goose is about sixteen inches long, the tube flattened throughout the greater part of its length, but cylindrical at the bottom. The vignette below represents the lower portion of the windpipe in three points of view. The figure on the right hand shows the tube with its bony enlargement on the left side, being its position in the body of the bird; the other figures are added to exhibit the various circular and oval apertures which pervade different parts of this bony enlargement, the opposite sides not being exactly alike, either in the number, form, or situation of these apertures in the bone, which in a natural state are closed by delicate transparent membrane. The bronchial tubes are divided higher at the back than in front, as seen in the figure on the left, to allow free passage for the œsophagus between them from behind forwards.





THE CANADA GOOSE,

OR CRAVAT GOOSE.

Anser Canadensis.

Anas Canadensis,	*Canada Goose,*	BEWICK, Brit. Birds, vol. ii. p. 293.
Anser ,,	,, ,,	FLEM. Brit. An. p. 128.
Cygnus ,,	,, *Swan,*	JENYNS, Brit. Vert. p. 227.

So frequently are specimens of the Canadian Goose shot which do not exhibit either in their actions or plumage any signs of having escaped from confinement, and so often are flocks seen in different parts of the country, apparently in a naturally wild state, some pairs of which in the season produce and rear their young in places selected by themselves for this purpose, without requiring or receiving either care or food from man, that the Canada Goose seems to be entitled to a place in this work. The bird from which Mr. Bewick drew his figure of this species was shot at St. Germain's in Cornwall, where two or three other examples have also been shot; and Mr. E. H. Rodd, of Penzance, sent me word some time ago, that the Canada Goose had been shot on the Scilly Islands. I have known several shot at different times in Hampshire. The Rev. Leonard Jenyns observes that large flocks have been observed in the fens of Cambridgeshire in a state of liberty and independence, and some of them have been killed in more than one instance. A writer in the Magazine of Natural History, vol. viii. p. 255, says, "in this neighbourhood (near Derby) we are frequently visited by small flocks of the Canada Goose, *Anser Canadensis*, Willughby, which is a bird, I believe, of very local distribution. They always announce their approach by a loud noise, and, after wheeling two or three times round the piece of water near the house, they alight and commence grazing. They are very ornamental objects stalking about the lawn, tossing their heads and making curious contortions with their long necks. It frequently happens that two remain when all the rest are flown. After reconnoitering the place for a few days, they usually fix on the corner of an island as their nesting place. This favourite nook of theirs is not far from where a pair of Moorhens, year after year, produce their young; yet, neither Goose nor Moorhen ever interfere with each other, but keep on very good terms; nevertheless, the former does not permit her sooty companion to make too close an approach. After the female Goose has fully made up her mind as to the locality of her nursery, she begins plucking feathers, straws, and other soft materials, until she has at last constructed a perfect feather bed. Having laid her eggs, generally six, she sits with most exemplary patience, and, notwithstanding the proximity of the water, which offers a great temptation, it is rare to find her off her nest. During the period of incubation the male is, through the greater part of the day, sailing in measured time and slow over the water, never approaching his mate very near, nor straying very far. On the approach of any intruder he displays great uneasiness, and his tranquillity does not return till the danger is over. Shortly after the goslings have extricated themselves from their brittle covering, they are conducted to the water by the female, when they are joined by the male, who brings up the rear. The little family remain together till the return of the flock, when all mix promiscuously, recruit themselves for a few days, and then depart. A pinioned female was joined by a male. When they were approached, the male did not fly away until he was pursued so closely as to be in danger of being caught; he remained with his mate as long as was consistent with his liberty; when that was in danger, and not till then, he deserted the female. Several of the wild goslings were obtained in the season of 1832, two of them passed into the hands of a neighbouring farmer, in whose possession they have remained ever since. They associate with his domesticated Grey-lag Geese, and are very peaceable." Montagu had observed that the Canada Goose will breed with the common species, and it has bred also with the Knobbed Goose, and the Bernicle Goose. Bewick says "great numbers of these Canadian Geese were driven from their haunts during the severe snow storms of January and February, 1814; they were taken upon the sea-shore, near Hartlepool, and divided among the farmers in the neighbourhood, no pains having been taken to keep the breed pure."

Sir W. Jardine observes, in a note in his edition of Wilson's American Ornithology, "On the beautiful piece of water at Gosford House, the seat of the Earl of Wemyss, Haddingtonshire, the Canadian Goose and many other water birds rear their young freely. I have never seen any artificial piece of water so beautifully adapted for the domestication and introduction of every kind of water fowl which will bear the climate of Great Britain. Of very large extent, it is embossed in beautiful shrubbery, perfectly recluse, and, even in the nearly constant observance of a resident family, several exotic species seem to look on it as their own. The Canada and Egyptian Geese both had young when I visited it, and the lovely *Anas* (*Dendronessa*) *sponsa* * seemed as healthy as if in her native waters."

Canada Geese produced and reared their young in the gardens of the Zoological Society in 1835, and a pair belonging to the Ornithological Society have been productive in St. James's Park, during the present season, 1841. The egg is of a dull white colour, measuring three inches four lines in length, and two inches four lines in breadth. The young were observed to grow very rapidly. Willughby, whose Ornithology was published in 1678, says of the Canada Goose, "the name shows the place whence it comes. We saw and described both this and the Spur-winged Goose among the King's wild-fowl in St. James's Park."

The Canada Goose goes to very high northern latitudes in summer. Captain Phipps mentions having seen Wild Geese feeding at the water's edge, on the dreary coast of Spitzbergen, in latitude 80° 27′; but these might be Bean Geese, which are known to go there. Fabricius suspects that they are found during summer in Greenland. They inhabit the northern parts of North America. Immense flocks appear annually in the spring in Hudson's Bay, and pass far to the north to breed, and return southward in autumn. Pennant, in his Arctic Zoology, says, numbers also breed about Hudson's Bay, laying six or seven eggs each; the young are easily made tame. They proceed in their southern migration as far as South Carolina, where they winter in the rice grounds. Dr. Richardson, in his Fauna Boreali-Americana, says, the arrival of this well known bird in the fur-countries is anxiously looked for, and hailed with great joy by the natives of the woody and swampy districts, who depend principally upon it for subsistence during the summer. It makes its first appearance in flocks of twenty or thirty, which are readily decoyed within gun-shot by the hunters, who set up stuffed skins, and imitate its call. Two or three, or more, are so frequently killed at a shot, that the usual price of a Goose is a single charge of ammunition. One Goose, which, when fat, weighs about nine pounds, is the daily ration for one of the Company's servants during the season, and is reckoned equivalent to two Snow Geese,* or three ducks, or eight pounds of buffalo and moose meat, or two pounds of pemmican, or a pint of maize and four ounces of suet. About three weeks after their first appearance, the Canada Geese disperse in pairs throughout the country, between the 50th and 67th parallels, to breed, retiring at the same time from the shores of Hudson's Bay. They are seldom or never seen on the coasts of the Arctic Sea. In July, after the young birds are hatched, the parents moult, and vast numbers are killed in the rivers and small lakes, when they are unable to fly. When chased by a canoe and obliged to dive frequently, they soon become fatigued and make for the shore, with the intention of hiding themselves, but as they are not fleet, they fall an easy prey to their pursuers. In the autumn they again assemble in flocks on the shores of Hudson's Bay for three weeks or a month previous to their departure southwards. It has been observed, that in their migrations, the Geese annually resort to certain passes and resting-places, some of which are frequented both in the spring and autumn, and others only in spring. The Canada Goose generally builds its nest on the ground, but some pairs occasionally breed on the banks of the Saskatchewan in trees, depositing their eggs in the deserted nests of ravens or fishing eagles. Its call is imitated by a prolonged nasal pronunciation of the syllable *wook* frequently repeated."

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* The Summer Duck, or Wood Duck of America.

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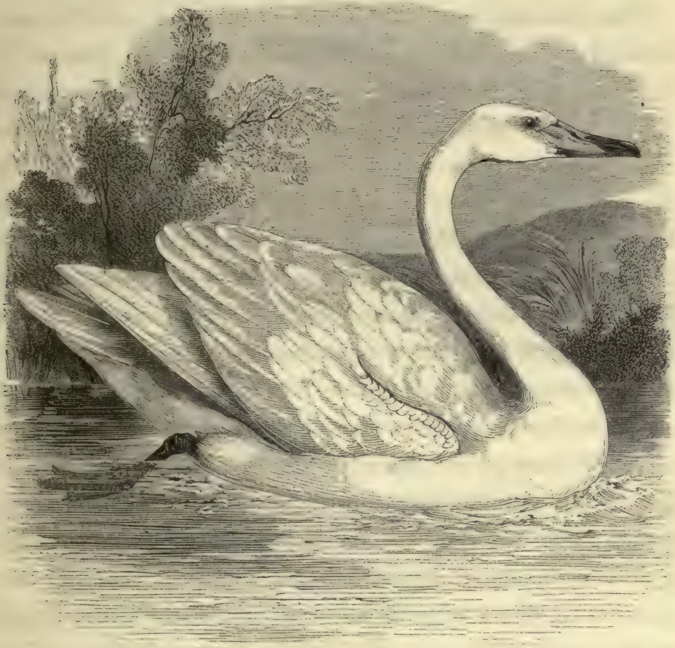
* There is an old saying, that a Goose is too much for one, and not enough for two: Hearne, in his Journal, says, "the flesh of the Snow Goose is delicate, but the bird is so small that I ate *two one night for supper*."

The beak is black; the irides very dark brown; head, and nearly all the neck, black; chin and throat white, extending upwards, and ending in a point behind the ear-coverts. This white patch, from its similarity in colour and position to a neckcloth, has given origin to one of the names of this species, the Cravat Goose. The back and the wing-coverts, the secondaries and tertials, brown, the feathers of all these except the first, with lighter coloured edges; primaries and tail-feathers black; the rump also black; the upper tail-coverts white; lower part of the neck almost white; breast and belly pale brown; vent and under tail-coverts white; legs, toes, and interdigital membranes dark lead colour, almost black. The whole length, according to Dr. Richardson, forty-one or forty-two inches; the wing, from the carpal joint to the end of the longest quill-feather, nineteen inches and a half.



THE HOOPER,

ELK, OR WHISTLING SWAN.

Cygnus ferus.

Anas cygnus,	*Wild Swan,*	Penn. Brit. Zool. vol. ii. p. 218.
„ „ *ferus,*	„ „	Montagu, Ornith. Dict.
„ „	„ „	Bewick, Brit. Birds, vol. ii. p. 281.
Cygnus ferus,	„ „	Flem. Brit. An. p. 126.
„ „	*Whistling* „	Selby, Brit. Ornith. vol. ii. p. 278.
„ „	„ „	Jenyns, Brit. Vert. p. 227.
„ „	„ „	Gould, Birds of Europe, pt. xv.
Anas cygnus,	*Cygne sauvage,*	Temm. Man. d'Ornith. t. ii. p. 828.
Cygnus musicus,	„ „	„ „ „ pt. iv. p. 526.

Cygnus. *Generic Characters.*—Beak of equal breadth throughout its length; higher than wide at the base; depressed at the point; both mandibles furnished along the sides with transverse serrated lamellæ. Nostrils oblong, lateral, near the middle of the beak. Neck slender and very long. Legs short, the hind toe small and free.

The Hooper, so called on account of the peculiar note uttered by this bird, is a winter visiter to the British Islands, even to the southern parts, arriving in flocks, sometimes as late as Christmas, and are generally more numerous as the weather becomes more severe. The Rev. Mr. Low, in his natural history of Orkney and Shetland, says, "The Wild Swan is found at all seasons in Orkney; a few pairs build in the holms of the loch of Stenness. These, however, are nothing to the flocks that visit us in October from the more northern climates, their summer retreats. Part of these continue with us all the winter, and the rest go to Caithness and the other northern shires of Scotland; in April they go off again to the northward, except the few which remain here for the summer. Like the wild geese, these birds fly in the fashion of a wedge, making a fine melodious clang, which has, perhaps, furnished one occasion to give a musical voice to this bird." Mr. Donn, the botanist, says a few visit the lakes of Forfarshire. In December various flocks are seen flying in compact bodies, directing their course southward, particularly along the coast lines, and many specimens are to be seen in the London markets, which are sometimes supplied to profusion. Many reach the sea on our southern coast. The late lamented Earl of Malmesbury sent me, in the spring of the year 1838, a list of four hundred and sixteen wild fowl, killed at Heron Court during the frost of the previous January and February, namely, from January the 9th to February the 24th. This list included thirty-three Hoopers. And Colonel Hawker describes with his usual skill the many successful shots he had made at Swans, when wild-fowl shooting between Lymington and Poole harbour; "the Hoopers, before they have been shot at, are easier of access than many other wild birds; and if, when flying, they are fired at directly under the hollow of the wing, or, when swimming, through the head, they may be stopped at a reasonable distance, with a common double gun and small shot; perhaps even farther than other wild-fowl, as, when struck in the body, they become helpless from their weight, and their heads are less likely to escape between the shot than those of smaller fowl. No birds vary more in weight than Hoopers. In the last winter, 1838, I killed them from thirteen to twenty-one pounds. On one occasion I knocked down eight at a shot, seven old ones and a brown one, and they averaged nineteen pounds each. The old gander was only winged; and when he found himself overtaken by my man, Read, he turned round and made a regular charge at him."

These birds visit Holland, France, Provence, and Italy; and Mr. Bennett says they sometimes go as far south as Egypt and Barbary. They visit Corfu and Sicily in very severe winters, and Mr. Drummond saw a few on the lakes of Biserta, and one in the lake of Tunis at the end of April 1845.

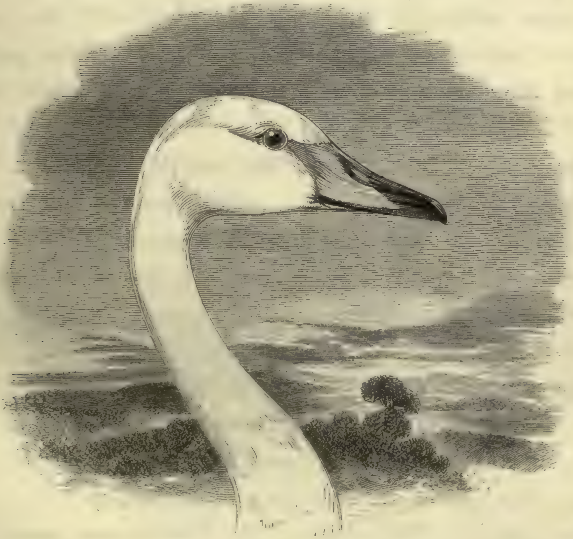
Linnæus saw Wild Swans several times during his tour in Lapland, and mentions that at the residence of the governor of the Province at Calix, he saw three, which having been taken when young, were as tame as domestic Geese.

Mr. Dann, in his note to me of this bird, says:—"The Wild Swan appears in Lapland with the first breaking up of the ice, and is the earliest of all the Anatidæ in its return north. They frequent the most secluded and uninhabited swamps and lakes in the wooded districts, and are found only in scattered pairs south of Juckasierva; thence in a north-eastern direction they are reported to be very numerous, but I did not fall in with any during my stay in Lapland."

Bechstein says that in Russia the Hooper is more frequently domesticated than the Mute Swan. A pinioned female, in the possession of Montagu, laid an egg. Several years ago I had an opportunity of seeing ten or twelve Hoopers in a stable in London. These fine birds had been procured by Mr. Castang, the well known dealer in birds for the late Earl of Egremont, and the Swans were shortly afterwards sent to Petworth, where, it was said, they produced their young. At the time I saw these birds, I also heard the voice of one of them, a very old and large male. His note resembled the sound of the word "hoop," repeating it loudly ten or twelve times in succession. At the Gardens of the Zoological Society a pair of Hoopers bred on one of the islands in the summer of 1839, and again during this last season. A curious occurrence took place in reference to the brood of 1839. The cygnets, when only a few days old, were sunning themselves on the margin of one of the islands, close to the deep water. The parent birds were swimming near. A Carrion Crow made a descent and struck at one of the cygnets; the old male Hooper came to the rescue in an instant, seized the Crow with his beak, pulled him into the water, and in spite of all his buffettings and resistance, held him there till he was dead. They make a large nest of rushes and coarse herbage; the egg is of a uniform pale brownish-white, and measures four inches one line in length, by two inches eight lines in breadth: incubation lasts forty-two days; the birds feed on grasses, weeds, roots, and seeds of plants. In the eastern part of Europe the Hooper ranges from the lakes of Siberia and Tartary in summer, to the

Caspian Sea in winter. M. Menetries says that it is seen at Bakou in January and February.

The Hooper may be immediately distinguished from other species among the Swans, by the characters to be observed about the head. Willughby, besides giving a figure of the whole bird, introduced in addition the head only, of larger size, to show the specific peculiarity. Edwards gave the head of our Mute Swan on the same plate with his figure of the Hooper, to show the distinction. This plan of engraving the heads only has been adopted with excellent effect by Col. Hawker, in his very popular work, and I have profited by his example of giving the head only, of large size, rather than give repetitions of similar white bodies. The first here introduced is the head of the adult Hooper. The anterior part of the beak is depressed and black; the posterior or basal part



quadrangular and yellow: this latter colour extending considerably forward along each lateral margin of the upper mandible, beyond the openings of the nostrils, which are black; the lore, or bare space between the base of the upper mandible and the eye, is also yellow; the irides dark; the head, neck, and the whole of the plumage of the body and wings in adult birds, pure white; some specimens, occasionally only, exhibiting a rufous or ochreous tint at the tips of the feathers on the head; the legs, toes, and their membranes black.

The whole length from the point of the beak to the end of the tail five feet. From the carpal joint of the wing to the end of the longest primary quill-feather, twenty-five inches and a half; weight twenty-four pounds.

Of those produced at the Gardens of the Zoological Society, the young birds in the middle of last August, when about ten weeks old, the beak was of a dull flesh colour, the tip and lateral margins black; the head, neck, and all the upper surface of the body pale ash-brown; the under surface before the legs of a paler brown; the portion behind the legs dull white; the legs, like the beak, of a dingy flesh colour.

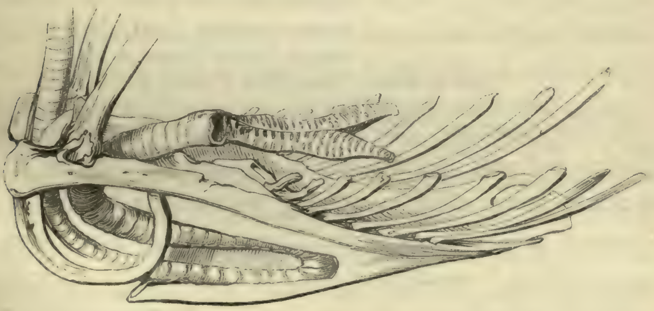
The same young birds, in the middle of October, have the beak black at the end; a reddish orange band across the nostrils, the base and lore pale greenish white; the general colour pale greyish-brown; a few of the smaller wing-coverts white, mixed with others of a pale buffy brown; the legs black.

The young Hoopers bred in 1839, had lost almost all their brown feathers at the autumn moult of 1840, and before their second winter was over they were entirely white; the base of the beak lemon yellow.

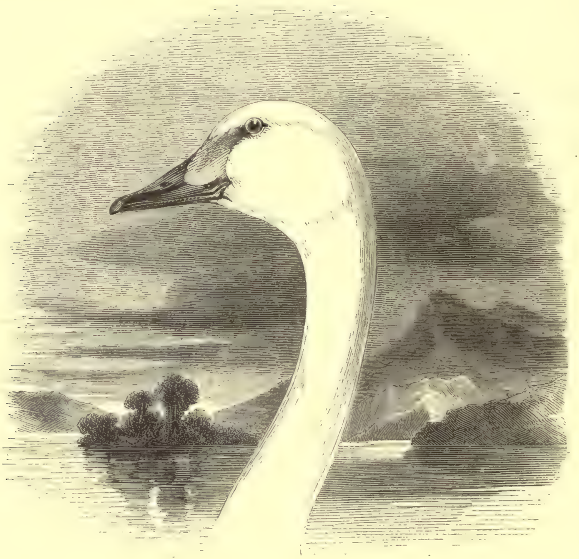
The internal distinctions of the Hooper are more conspicuous than those which have been referred to as external, and of the former, the organ of voice furnishes the most valuable and decisive characters. This peculiarity was known to Willughby, but it was previously noticed by Sir Thomas Browne, who mentions "that strange recurvation of the windpipe through the sternum."

The cylindrical tube of the trachea or windpipe passes down the whole length of the long neck of the bird, in the usual manner, but descends between the two branches of the forked bone, called the merrythought, to a level with the keel of the breast-bone or sternum. The keel of the breast-bone is double, and receives between its two plates or sides, the tube of the trachea, which, after traversing nearly the whole length of the keel, turns suddenly upon itself, passing forwards, upwards, and again backwards, till it ends in the vertical bone of divarication, from whence the two long bronchial tubes go off, one to each lobe of the lungs. This singular structure will be further understood by a reference to the vignette below, where a portion of one side of the keel is removed to show the convoluted tube within.

The depth of the insertion is not, however, so considerable in females or young males.



NATATORES. *ANATIDÆ.*



BEWICK'S SWAN.

Cygnus Bewickii.

Cygnus Bewickii,	*Bewick's Swan,*	Bewick, Brit. Birds, vol. ii. p. 290.
,, ,,	,, ,,	Selby, Brit. Ornith. vol. ii. p. 284.
,, ,,	,, ,,	Jenyns, Brit. Vert. p. 228.
,, ,,	,, ,,	Eyton, Rare Brit. Birds, p. 86.
,, ,,	,, ,,	Gould, Birds of Europe, pt. xix.
,, ,,	*Cygne de Bewick,*	Temm. Man. d'Ornith. pt. iv. p. 527.

In the winter of 1823-24, I prepared and preserved the trachea and part of the bones of a young Wild Swan, shot in this country, which, possessing peculiarities I had never observed in the bones of the Hooper at any age, induced me to believe it would prove to belong to a distinct species.

At the sale of part of the valuable collection of the late Joshua Brookes, Esq. in July 1828, I purchased the sternum and trachea of a Swan which had been prepared by Dr. Leach, and presented by that distinguished naturalist to Mr. Brookes; this, also, from its anatomical structure, appeared to be distinct from the Hooper, and belonged to an adult bird of the same species, as the bones of the young one just mentioned. These materials I exhibited at the evening meeting of the Zoological Club of the Linnean Society, on the 24th of November 1829, and contrasting them with analogous parts of the Hooper, pointed out by comparison the anatomical distinctions between them, upon which I proposed to consider the new one as a distinct species.

Early in the following month of December I was presented by J. B. Baker, Esq. with the sternum and trachea of a third example of this new species, shot at Yarmouth during the winter of 1827-28, the skin of which had been prepared for that gentleman's collection at Hardwicke Court. During the severe weather of the same month, Wild Swans were unusually numerous; more than fifty were counted in one flock at Wittlesey Mere. Among a considerable number which had been forwarded to the London markets for sale, I was fortunate enough to select five examples of this new species, of different ages; and, possessing thus a series of gradations in structure, I described them in a paper read before the Linnean Society, and proposed to call it Bewick's Swan, thus devoting it to the memory of one whose beautiful and animated delineations of subjects in natural history entitle him to this tribute. These Swans being plentiful from the severity of the winter, others were procured in different parts of the country. Mr. Richard Wingate, of Newcastle, had obtained specimens, and observing the difference between them and the Hooper, read a notice upon the subject, at the Natural History Society at Newcastle, and as he was one of the oldest as well as one of the warmest friends of Thomas Bewick, immediately adopted the name I had proposed. It is gratifying to observe that M. Temminck, who is acquainted with the merits of Bewick's works, has set the example on the Continent, and adopted this name also.

This species is one third smaller than the Hooper at the same age, and appears to go through the same changes of plumage. It is first greyish-brown; afterwards white, tinged with rust colour on the head, and on the under surface of the belly, and ultimately pure white. Their habits, as far as they are known here, have been observed by Mr. Blackwall and Mr. Thompson. These birds have appeared in flocks on various occasions during winter; they have probably visited this country for many years, but had not been distinguished from the Hooper. When the external characters were made known, several museums and collections in different parts of the country were found to contain specimens.

Some birds that were but slightly wounded in the wing have been retained, like our Mute Swan, upon ornamental waters, but I have not heard that any one has succeeded with them so far as to induce them to produce their young. I have one egg which I believe to belong to this species; it is very like that of the Hooper but smaller, of a pale brownish-white; three inches seven lines long, by two inches six lines in breadth.

Mr. John Blackwall, in his researches in Zoology, after referring to a specimen of Bewick's Swan in the Manchester Museum, says, "About half-past eight, on the morning of the 10th of December 1829, a flock of twenty-nine Swans, mistaken by many persons who saw them, for Wild Geese, was observed flying over the township of Crumpsal, at an elevation not exceeding fifty yards above the surface of the earth. They flew in a line, taking a northerly direction, and their loud calls, for they were very clamorous, when on the wing, might be heard to a considerable distance. I afterwards learned that they alighted on an extensive reservoir near Middleton, belonging to Messrs. Burton and Sons, calico-printers, where they were shot at, and an individual had one of its wings so severely injured that it was disabled from accompanying its companions in their retreat. A short time since, I had an opportunity of seeing this bird, which resembled the rest of the flock with which it had been associated, and found, as I had anticipated, that it was precisely similar to the small Swan preserved in the museum at Manchester, which, I should state, was purchased in the fish market in that town, about five or six years ago."

"Twenty-nine of these birds congregated together, without a single Whistling Swan among them, is a fact so decisive of the distinctness of the species, especially when taken in connexion with those external characters and internal structure in which it differs from the Hooper, that I should no longer have deferred to describe it as a new bird to ornithologists, had I not been anticipated by Mr. Yarrell."

"Of the habits and manners of this species, little could be ascertained from a brief inspection of a wounded individual; I may remark, however, that when on the water, it had somewhat the air and appearance of a Goose, being almost wholly devoid of that grace and majesty by which the Mute Swan is so advantageously distinguished. It appeared to be a shy and timid bird, and could only be approached near by stratagem, when it intimated its apprehension by uttering its call. It carefully avoided the society of a Mute Swan which was on the same piece of water."

"On the 28th of February 1830, at half-past ten in the morning, seventy-three Swans, of the new species, were observed flying over Crumpsall in a south-easterly direction, at a considerable elevation. They flew abreast, forming an extensive line, like those seen on the 10th of December, 1829; like them, too, they were mistaken for Wild Geese by most persons who saw them with whom I had an opportunity of conversing on the subject; but their superior dimensions, the whiteness of their plumage, their black feet, easily distinguished as they passed overhead, and their reiterated calls, which first directed my attention to them, were so strikingly characteristic, that skilful ornithologists could not be deceived with regard to the genus to which they belonged. That these birds were not Hoopers may be safely inferred from their great inferiority in point of size."

"I was informed, that when the Wild Swans were shot at, near Middleton on the 10th of December, 1829, one of them was so reluctant to abandon the bird which was wounded on that occasion, that it continued to fly about the spot for several hours after the rest of the flock had departed, and that, during the whole of this period, its mournful cry was heard almost incessantly. In consequence of the protracted disturbance caused by the persevering efforts of Messrs. Burton's workmen to secure its unfortunate companion, it was at last, however, compelled to withdraw, and was not seen again till the 23rd of March, when a Swan, supposed to be the same individual, made its appearance in the neighbourhood, flew several times round the reservoir in lofty circles, and ultimately descended to the wounded bird, with which, after a cordial meeting, it immediately paired. The newly arrived Swan, which proved to be a male bird, soon became accustomed to the presence of strangers; and, when I saw it on the

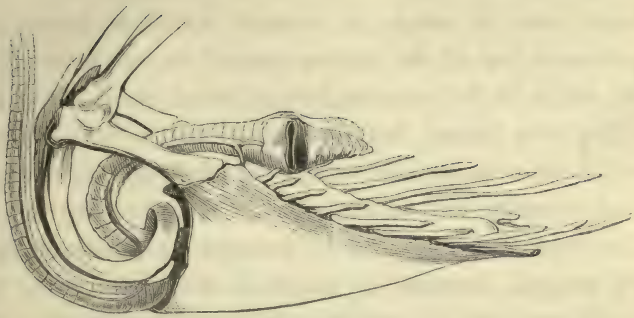
4th of April, was even more familiar than its captive mate. As these birds were strongly attached to each other, and seemed to be perfectly reconciled to their situation, which, in many respects was an exceedingly favourable one, there was every reason to believe that a brood would be obtained from them. This expectation, however, was not destined to be realized. On the 13th of April, the male Swan, alarmed by some strange dogs which found their way to the reservoir, took flight and did not return; and on the 5th of September, in the same year, the female bird, whose injured wing had recovered its original vigour, quitted the scene of its misfortunes and was seen no more."

Specimens of Bewick's Swan have been obtained in several parts of Scotland; and Mr. Thompson, of Belfast, has recorded that this species is certainly more common in Ireland than the Hooper. Several strings of them, as they are there called from the form in which they fly, were seen in January 1836; single individuals were brought to market occasionally, by which museums and collectors were supplied; and Mr. Thompson particularly mentions that in February, 1830, a flock containing seven of these Swans alighted in a flooded meadow near Belfast, when they were shot at, and two of them so disabled by the one discharge, as to be, after some difficulty secured. They were bought by William Sinclaire, Esq., and on their wounds being found so trivial as merely to incapacitate them from flight, were placed in his aquatic menagerie, where, in company with many other species of wild-fowl, chiefly *Anatidæ*, they have ever since remained. Mr. Sinclaire also mentions, that every spring and autumn since he has had these Swans, they have regularly, about the months of March and September, become very restless, and for the period of at least three weeks have wandered from the enclosure within which they are contented to remain all the rest of the year. In disposition they are timid and extremely gentle, and never attempt to molest any of the wild-fowl confined in the same pond with them, though all of these are their inferiors in strength and size. Their call, chiefly uttered at the migratory period, is a low deep-toned whistle, once repeated. On the water, the carriage of the *Cygnus Bewickii* is intermediate in its character between that of the Mute Swan and Common Goose ; but if these birds exhibit not the grace and majesty of the former on this element, they appear to much more advantage on the land, where, by choice, they spend the greater portion of their time. The stomach of a specimen examined by Mr. Thompson contained only minute seeds and gravel.

Young birds as they appear here in the plumage of their first winter are greyish-brown. At their second winter, when they have acquired the white plumage, the irides are orange ; the head and breast strongly marked with rusty red ; base of the beak lemon yellow ; when older some continue to exhibit a tinge of rust colour on the head, after that on the breast has passed off. The adult bird is of a pure unsullied white ; the base of the beak orange yellow ; the irides dark ; the legs, toes, and membranes black ; the figure at the commencement of this subject shows the distribution of black and yellow on the beak, which is liable to a little variation.

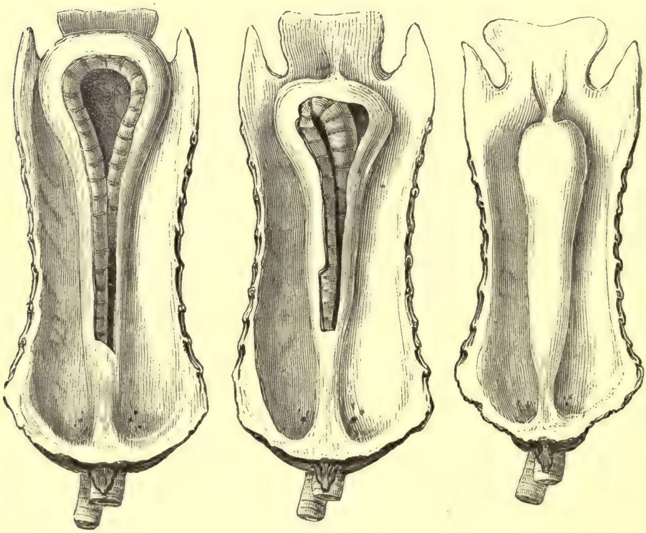
The whole length three feet ten inches, to four feet two inches. From the carpal joint to the end of the longest primary twenty-one inches ; the second and third quill-feathers longer than the first and fourth ; tail-feathers twenty ; in young birds I have found but eighteen, and in one instance nineteen.

M. Temminck says this species breeds in Iceland in May, and has been taken in the winter in Picardy.



In anatomical structure this new species differs much more decidedly from the Hooper than in its external characters. The principal and most obvious difference is in the trachea, which forms one of the best distinctions in the separation of nearly allied species throughout this numerous family. The tube of the windpipe is of equal diameter throughout, and descending in front of the neck enters the keel of the sternum, which is hollow, as in the Hooper, traversing its whole length. Having arrived at the end of the keel, the tube then gradually inclining upwards and outwards passes into a cavity in the sternum destined to receive it, caused by a separation of the parallel horizontal plates of bone, forming the posterior flattened portion of the breast-bone, and producing a convex protuberance on the inner surface. The tube also changing its direction from vertical to horizontal, and reaching within half an inch of the posterior edge, is reflected back after making a considerable curve, till it once more reaches the keel, again traversing which, in a line immediately over the first portion of the tube, it passes out under the arch of the merrythought; where, turning upwards, and afterwards backwards, it enters the body of the bird to be attached to the lungs in the usual manner. This is the state of developement in the oldest bird I have met with. The degree next in order, or younger, differs in having the horizontal loop of the trachea confined to one side only of the cavity in the sternum, both sides of which cavity are at this time formed, but the loop of the tube is not yet sufficiently elongated to occupy the whole space; and the third in order, that on the right of the three representations shown below, from a still younger bird, possesses only the vertical insertion of the fold of the trachea; yet in this specimen the cavity in the posterior portion of the sternum already exists to a considerable extent.

These are the peculiarities of structure which belong to the tube and the sternum. The bronchiæ are very short; but the flexible part intervening between the bone of divarication and the bronchial rings is considerable, producing an effect to be hereafter noticed. This elongated, flexible, and delicate portion being defended on each outer side by a distinct membrane, attached to the whole edge



of the bone of divarication, and to a slender semicircular bone on each side, by which it is supported.

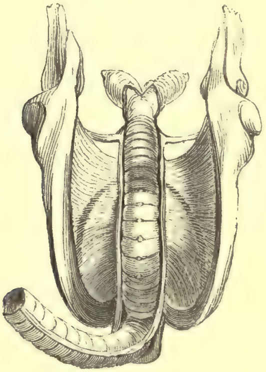
The muscles of voice with which this bird is provided pass down, as usual, one on each side of the trachea, till the tube is about to enter the cavity in the keel, they then quit that part of the tube to be attached to the ascending portion of the curve, which they follow, ultimately dividing into two slips, one of which inserted upon the surface of the bone of divarication governs the length of the preceding flexible portion of the tube; the other slip passes off downwards to be attached to the inner surface of the breast-bone, anterior to the first rib. The course of the muscle on one side may be traced in the first anatomical figure.

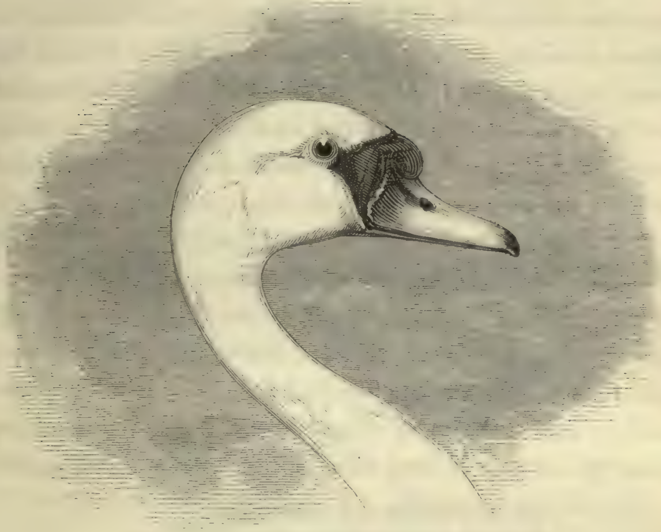
The vignette at the end of this subject represents a front view of a portion of the body of this species of Swan, with the anterior part of the descending windpipe turned aside to show the inner ascending part of it, the muscles of voice, and the tendinous fascia stretched across from one branch of the forked bone or merrythought over to the other, by which both portions are supported.

Dissection, which proved the distinction between the Hooper and Bewick's Swan, has also proved that the two Wild Swans of North America are peculiar to that country, and distinct from the two European Swans. The largest of the North American Swans, still larger than our Hooper, is called *Cygnus buccinator*, or the Hunter's Swan, by Dr. Richardson, in his Fauna Boreali-Americana, where the measurements and other particulars of its history will be found; and I am indebted to the liberality of Dr. Richardson for a specimen of the very singular organs of voice and the sternum of this species, which will be found described and figured in the seventeenth volume of the Transactions of the Linnean Society.

The second species of North American Swan was described by Dr. Sharpless, in the fifth volume of the American Journal of Science and Arts, under the name of *Cygnus Americanus;* it has also been described more recently by Mr. Audubon, in the fifth volume of his Ornithological Biography. I have been presented by both these gentlemen with the organ of voice and the sternum from several examples of this second species of American Swan, which, however, in some respects, internally as well as externally, resembling our Bewick's Swan, is said to attain a size and weight almost equal to those of our Hooper; the whole length is recorded as reaching four feet six inches, and the weight twenty-one pounds.

The anatomical representations of Bewick's Swan, necessarily very much reduced in size here, will be found of much larger dimensions in the sixteenth volume of the Linnean Transactions.





THE MUTE SWAN.

Cygnus olor.

Anas olor,	*Tame Swan,*	PENN. Brit. Zool. vol. ii. p. 221.
„ „	*Mute Swan,*	BEWICK, Brit. Birds, vol. ii. p. 286.
Cygnus „	„ „	JENYNS, Brit. Vert. p. 228.
„ *mansuetus,*	*Domestic* „	GOULD, Birds of Europe, pt. vii.
Anas olor,	*Cygne tuberculé,*	TEMM. Man. d'Ornith. t. ii. p. 830.
Cygnus „	„ „	„ „ „ pt. iv. p. 529.

OUR Mute Swan is one of the most graceful as well as the largest of British Birds, and at the same time so well known and appreciated, that minute details of its characters, or its value, are unnecessary, beyond pointing out those external differences by which it may be readily distinguished from either of the species already described.

The most obvious difference, and that which will immediately strike the observer on comparing the representation of our Mute, half-domesticated Swan, with those of the Hooper and Bewick's Swans is, that the two most conspicuous colours on the beak occupy opposite situations in these species. In the Hooper and Bewick's Swans, the anterior portion of the beak is black, the base and the lore to the eye, orange-yellow; but in our Mute Swan it is the anterior portion of the beak which is of a rich reddish orange, the base and the lore to the eye black, with a prominent black tubercle or knob, on the upper part in front of the forehead, which in old males attains considerable size.

The Swan is, perhaps, of all others the most beautiful living ornament of our rivers and lakes. Poets of all ages and countries have made this bird the theme of their praise, and by none with more characteristic truth of expression than by our own Milton, who, in his Paradise Lost, says—

———" The Swan with arched neck
Between her white wings mantling, proudly rows
Her state with oary feet."

The male has frequently been styled " the peaceful monarch of the lake ;" but this is his character during part of the year only ; pending the season of incubation, and rearing the young, there is scarcely any bird more pugnacious, and from his great size and power he is in reality a monarch to be feared and avoided by all that inhabit his watery domain, for he drives his weaker subjects in all directions.

The nest, consisting of a large mass of reeds, rushes, and other coarse herbage, is formed on the ground near the edge of the water, and an island is generally chosen rather than the bank. The female produces six or seven eggs; these are of a dull greenish white, four inches in length, by two inches nine lines in breadth. Incubation lasts six weeks, during which time the male is in constant attendance upon the female, occasionally taking her place upon the eggs, or guarding her with jealous care, giving chase and battle, if necessary, to every intruder. So fierce and determined are they at this time that two instances have occurred in which Black Swans, though but little inferior to themselves in size, have been killed by White Swans; one of these occurrences which took place in the Regent's Park, is thus related. "The two White Swans pursued the Black one with the greatest ferocity, and one of them succeeded in grasping the black one's neck between its mandibles, and then shook it violently. The Black Swan with difficulty extricated itself from this murderous grasp, hurried on shore, tottered from the water's edge a few paces, and fell, to die. Its death appeared to be attended with great agony; it stretched its neck in the air, fluttered its wings, and attempted to rise from the ground: after about five minutes of suffering it made a last effort to rise, and fell dead with outstretched neck and wings. Its foes never left the water in pursuit, but continued sailing with every feather on end, up and down towards the spot where their victim fell, and seemingly proud of their conquest."

The triumph, however, is not always on the side of the White Swan. At Castle Martyr, the seat of Lord Shannon, near the Cove of Cork, a male Black Swan, as I learned from Admiral Bowles, attacked and killed the male of a pair of Mute Swans, took possession of the female in right of conquest, and one cygnet was produced. The Mute Swan has also bred with the Polish Swan, (*C. immutabilis*,) on the waters of the Dublin Zoological Society in the Phœnix Park.

I am indebted to the kindness of Lord Braybrooke for the following account of a female Swan, on the river at Bishop's Stortford. This Swan was eighteen or nineteen years old, had brought up many broods, and was highly valued by the neighbours. She exhibited, some eight or nine years past, one of the most remarkable instances of the powers of instinct that was ever recorded. She was sitting on four or five eggs, and was observed to be very busy in collecting weeds, grasses, &c. to raise her nest; a farming man was ordered to take down half a load of haulm, with which she most industriously raised her nest and the eggs two feet and a half; that very night there came down a tremendous fall of rain, which flooded all the malt shops and did great damage. *Man* made no preparation, the *Bird** did. Instinct prevailed over reason; her eggs were above, and only just above the water.

The young, when hatched, which is generally about the end of May, are conducted to the water by the parent birds, and are even said to be carried there: it is certain that the cygnets are frequently carried on the back of the female when she is sailing about in the water. This I have witnessed on the Thames, and have seen the female, by raising her leg, assist the cygnets in getting upon her back. I thought it probable that carrying the young might only be resorted to when the brood inhabited a river, to save the young the labour of following the parent against the stream; but during the present summer, 1841, a female Swan was frequently seen carrying her young on the canal in St. James's Park, where there is no current to impede their course. A short quotation from the first volume of "Gleanings in Natural History," by Mr. Jesse, corroborates several points in the habits of this bird. "Living on the banks of the Thames, I have often been pleased with seeing the care taken of the young Swans by the parent birds. Where the stream is strong the old Swan will sink herself sufficiently low to bring her back on a level with the water, when the cygnets will get upon it, and in this manner are conveyed to the other side of the river, or into stiller water. Each family of Swans on the river has its own district; and if the limits of that district are encroached upon by other Swans, a pursuit immediately takes place, and the intruders are driven away. Except in this instance, they appear to live in a state of the most perfect harmony. The male is very attentive to the female, assists in making the nest, and when a sudden rise of the river takes place, joins her with great assiduity in raising the nest sufficiently high to prevent the eggs being chilled by the action of the water, though sometimes its rise is so rapid, that the whole nest is washed away and destroyed."

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* In the account of the Green Woodpecker, I have referred at vol. ii. page 142, to the probable means by which birds and some other animals become cognizant of approaching changes in the weather.

The family continue to associate through the winter, but under the influence of returning spring the parent birds drive away from them the young brood of the previous year and oblige them to shift for themselves. Their food consists of the softer parts of water plants, roots, aquatic insects, and occasionally small fish: a Swan has been seen to eat a small roach; they also eat grain and bread.

The Swan being identified with Orpheus, and called also the Bird of Apollo, the god of music, powers of song have been often attributed to it, and as often denied. It is, however, perfectly true that this bird has a soft low voice, rather plaintive and with little variety, but not disagreeable. I have heard it often in the spring, and sometimes later in the season, when moving slowly about with its young. Colonel Hawker, in his sporting work, at page 261, has printed a few bars of the "Swan's melody, formed with two notes, C and the minor third (E flat), and the musician, it is said, kept working his head as if delighted with his own performance."

These birds are found wild in Russia and Siberia; and Mr. Bennett observes that it is found in a wild state in almost every country in Europe. Bechstein particularly mentions Lithuania, Poland, and eastern Prussia. In Germany, young birds that have not been pinioned migrate in autumn. M. Temminck says it is abundant in Holland, and is found in France, Provence, and Italy. Mr. Strickland says this species visits Smyrna Bay in winter; and the Russian naturalists include it among the birds found in the countries between the Black and the Caspian Seas.

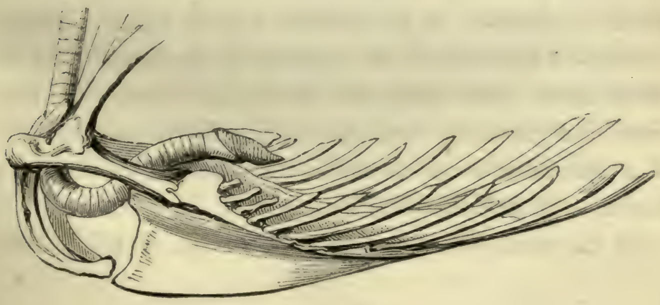
In England, Dr. Turner notices the Swan with the black tubercle on the beak, in his book on Birds, published in 1544, and Sibbald includes it in his Fauna of Scotland, in 1684. They were more abundant formerly than at the present time, though still existing in a comparatively wild state on many rivers. The author of the Journal of a Naturalist mentions having seen more than forty at one time, on the great swan-pool that some years ago existed near the city of Lincoln, but has been since drained; and the great swannery of the Earl of Ilchester, at Abbotsbury, near the coast in Dorsetshire, is well known. About eighty Swans are there preserved, and as the cygnets are not caught to be marked or pinioned, the interesting sight of several of these fine large birds on the wing together is often witnessed. The water is strictly watched and guarded, and in the season is used as a decoy.

The adult bird has the nail at the point of the beak, the edge of the mandible on each side, the base, the lore to the eye, the orifice of the nostrils and the tubercle, black; the rest of the beak reddish orange; the irides brown; the head, neck, and all the plumage pure white; the legs, toes, and interdigital membranes black.

The whole length of an old male is from four feet eight inches, to five feet; the weight about thirty pounds; and marked Swans have been known to live fifty years. The male is distinguished from the female by being larger; the black tubercle at the base of the beak is also larger; the neck is thicker, and the bird swims higher out of the water. The body of the female is smaller; the neck more slender, and she appears to swim deeper in the water. This latter point is referrible to a well known anatomical law, that females have less capacious lungs than males, and her body therefore is less buoyant.

The young Mute Swan, in July, has plumage of a dark bluish-grey, almost a sooty grey; the neck, and the under surface of the body rather lighter in colour; the beak lead colour; the nostrils and the basal marginal line black. The same birds, at the end of October, have the beak of a light slate grey, tinged with green; the irides dark; head, neck, and all the upper surface of the body, nearly uniform sooty-greyish brown; the under surface also uniform, but of a lighter shade of greyish-brown. Young birds at the end of October nearly as large as the old birds. After the second autumn moult but little of the grey plumage remains. When two years old they are quite white, and breed in their third year.

The figure here inserted represents the windpipe and



breast-bone of the Mute Swan. The keel is single, unprovided with any cavity; the windpipe descends between the branches of the forked bone, and curving in the form of part of a circle, passes upwards and backwards to the bone of divarication, and from thence by short tubes to the lungs.

One subject having reference to this species of Swan appears to be so closely connected with its history, that I am induced to take a short notice of it, and the more so because it has hitherto been passed over in other histories of the birds of this country. I allude to the privileges granted to individuals or companies to keep and preserve Swans on different streams; and the many various swan marks adopted, by which each party might know their own birds. The subject, in all its details, is so extensive that I can afford space for little more than an outline, but this will be sufficient to shew the degree of value and importance attached to the possession of the bird, and the authorized power to protect it.

In England the Swan is said to be a bird royal, in which no subject can have property, when at large in a public river or creek, except by grant from the crown. In creating this privilege the crown grants a swan-mark.

A silver swan was the principal device on the badge of Henry the Fourth: derived from the Bohuns, Earls of Hereford, of which family his first wife was the daughter and coheiress. Another of his badges was a white antelope. Henry the Fifth before his accession to the throne used the silver swan; afterwards the fire-beacon appears to have been his cognizance. Over his tomb in Westminster Abbey is a representation of an antelope and a swan, chained to a beacon.—*Montagu's Heraldry*.

In the twenty-second year of the reign of Edward the

Fourth, 1483, it was ordered that no person, other than the king's sons, should have a swan-mark, or game of swans, who did not possess a freehold of the clear yearly value of five marks.

Sometimes, though rarely, the crown, instead of granting a swan-mark, confers the still greater privilege of enjoying the prerogative right (within a certain district) of seizing White Swans not marked. Thus the Abbot of Abbotsbury, in Dorsetshire, had a game of Swans in the estuary formed by the the Isle of Portland and the Chesil Bank. The swannery at Abbotsbury is the largest in the kingdom, and is an object of considerable attraction and interest to those who visit that part of the south coast, and has been before referred to: it is now vested in the Earl of Ilchester, to whose ancestor it was granted on the dissolution of the monasteries.

In the eleventh year of the reign of Henry the Seventh, 1496, it was ordered that stealing, or taking a Swan's egg should have a year's imprisonment, and make fine at the king's will. Stealing, setting nets or snares for, or driving Grey or White Swans, was punished still more severely.

The king had formerly a swanherd, (*Magister deductus cygnorum*,) not only on the Thames, but in several other parts of the kingdom. We find persons exercising the office of "Master of the King's Swans," sometimes called the swanship, within the counties of Huntingdon, Cambridge, Northampton, and Lincoln. Richard Cecil, the father of Lord Burleigh, was bailiff of Whittlesey Mere, and had the custody of the Swans in the time of Henry the Eighth. Anciently the crown had an extensive swannery annexed to the royal palace or manor of Clarendon in Wiltshire. It had also a swannery in the Isle of Purbeck.

In Archæologia, or miscellaneous tracts relating to antiquity, published by the Society of Antiquaries of London, vol. 16, 1812, Ordinances respecting Swans on the river Witham, in the county of Lincoln; together with an original roll of ninety-seven swan-marks, appertaining to the proprietors on the said stream, were communicated by the Right Hon. Sir Joseph Banks, Bart. K.B. P.R.S. and F.S.A.

"These are the ordinances made the 24th day of May, 1524, in the fifteenth year of the reign of our Sovereign Lord King Henry the Eighth, by the Lord Sir Christopher Willuby, Sir Edward Dimock, and others, Justices of Peace and Commissioners, appointed by our Sovereign Lord the King, for the confirmation and preservation of His Highness Game of Swans, and Signets, of his stream of Witham, within his county of Lincoln, &c. from a Breges, called Boston Breges, unto the head of the said stream."

A true copy of the Parchment Roll being too long, a few only of the particulars are here inserted.

No persons having Swans could appoint a new swanherd without the king's swanherd's licence.

Every swanherd on the stream was bound to attend upon the king's swanherd upon warning, or suffer fine.

The king's swanherd was bound to keep a book of swan-marks, and no new marks were permitted to interfere with old ones.

Owners of Swans and their swanherds were registered in the king's swanherd's book.

The marking of the cygnets was generally performed in the presence of all the swanherds on that stream, and on a particular day or days, of which all had notice. Cygnets received the mark found on the parent birds, but if the old

Swans bore no mark, the whole were seized for the king, and marked accordingly. No swanherd to affix a mark but in the presence of the king's swanherd or his deputy.

Formerly, when a Swan made her nest on the banks of the river, rather than on the islands, one young bird was given to the owner of the soil, who protected the nest, and this was called 'the ground bird.' A money consideration, instead of a young bird, is still given.

When, as it sometimes happened, the male bird of one owner mated with a female bird belonging to another, the brood were divided between the owners of the parent birds: the odd cygnet, when there was one, being allotted to the owner of the male bird.

The swan-mark, called by Sir Edward Coke, *cigninota*, was cut in the skin on the beak of the Swan with a sharp knife or other instrument. These marks consisted of annulets, chevrons, crescents, crosses, initial letters, and other devices, some of which had reference to the heraldic arms of, or the office borne by, the swan owner.

The representations inserted overleaf are swan-marks supposed to be cut on the upper surface of the upper mandible.

Nos. 1 and 2 were the royal swan-marks of Henry the Eighth, and Edward the Sixth. No. 3 was the swan-mark of the Abbey of Swinstede, on the Witham in Lincolnshire; and I may notice that the crosier, or crook, is borne by the divine, the cowherd, the shepherd, the goatherd, the swanherd, and the gooseherd, as emblematic of a pastoral life and the care of a flock.

No. 4 was the swan-mark of Sir Edward Dimock of Lincolnshire. The king's champion, it will be recollected, is of this family, who hold "the mannour at Scrivelsby in Lincolnshire by that tenure, to come armed on horsebacke (or one in his stead) on the king's coronation day, and in the presence of the king to proclaime and challenge any

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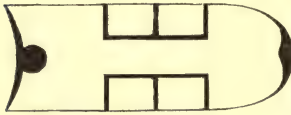

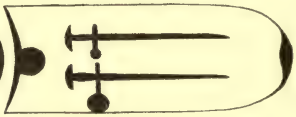
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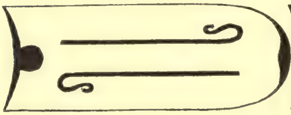

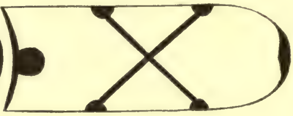
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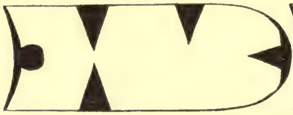

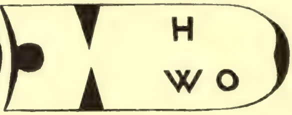

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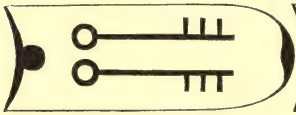

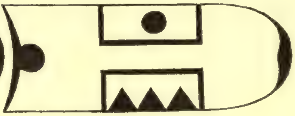
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that shall affirm the king not lawfull heire to the crowne and kingdome, to fight with him bodie for bodie," &c.—*Camden.*

These last four swan-marks are from Archæologia.

No. 5, the swan-mark of Sir Thomas Frowick, of Gunnersbury, Middlesex, who was born at Ealing, bred in the study of our municipal law; wherein he attained to such eminency that he was made Lord Chief Justice of the Common Pleas. Four years he sate in his place, accounted the oracle of law in his age, though one of the youngest men that ever enjoyed that office.—*Abridged from Fuller's Worthies.* The swan-mark is from Harleian M.S.

No. 541. A volume of papers collected by Stow the Antiquary. Monuments to the memory of the Frowicks will be found in the churches of Ealing, South Mimms, and Finchley. *Ecclesiastical Topography.*

The next three swan-marks are from an interesting volume, Mr. A. J. Kempe's *Losely Manuscripts*, and refer to the time of Elizabeth.

No. 6, the swan-mark of Lord William Howard, afterwards Earl of Effingham, Lord High Admiral of England, in the reign of Queen Mary.

No. 7, the swan-mark of Lord Buckhurst. The keys here adopted have reference to his office of Chamberlain of the Household. At the present day the appointment of the royal swanherd's man is vested in the Lord Chamberlain for the time being.

No. 8, the mark of Sir William More, who was appointed by Lord Buckhurst to the office of Master of the Swans for Surrey, "in such sorte as all the rest of the sheres were graunted." One of the conditions recorded in the grant is as follows: "But this order must be kept, that the upping * of all those Swans, near or within the said branches of the Tems, may be upped all in one day with the upping of the Tems, which is referred to Mr. Maylard, of Hampton Courte, who hath the ordering of the Tems. So if it pleas you from time to time to send and confer with him." The following is a copy of a letter from R. Maylard, the Master of the Swans on the Thames, to Sir William More, as Master of the Swans for Surrey, extracted from Mr. Kempe's book:—

"May it please you, Sir, this morning I received a l're affirmed to come from you, but no name thereunto.

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* Upping, or taking up the young Swans to mark them, now sometimes called swan-hopping.

Wherein yo' request me to come to Perford to conferr wt yo' touching the upping of Swanes, w'ch I wold most gladly pforme, yf I were not throughe very ernest busynes letted of my purpose, ffor to morrowe being Tuysdaie I take my jorney along the river of Thames at Gravesend.* And then uphon the first Mondaie in August, I come westward towards Wyndsor. Wherefore if it may please you^{u} to send to my howse to Hampton Court what dais you meane to appointe for driving the river of Weybridge and Molsey, it shall suffice, to th' end the gamesters maie have knowledge thereof, that they may attend accordingly. I do thinke it wold greatly satisffie them yf yo' did appointe the same upon Tuesday the viith of August, for upon that day they wil be at the entrance of these rivers. And so praing you to p'don me for my absence at this tyme, I humbly take my leave. Hampton Court, this Mondaie, xxxth of July 1593. "Yor poore frend to comaunde,

"R. Maylard."

"To the R. W. Sir W. Moore, Kn't,
at Pirforde."

Since the publication of the first edition of this work, I have been so fortunate as to obtain a very rare tract on Swans and swan-marks, printed by Aujust Matthewes, in 1632, and containing, besides some other illustrations, the swan-mark of the unfortunate Charles the First, and his Queen. It is a small quarto of eight leaves only, of the 'Orders, Lawes and ancient Customes of Swannes, taken forth of a Book, which the Lord Buckhurst delivered to Edward Clerk, of Lincoln's Inn, Esq., to peruse,' on the back of which book it was thus entitled, "Taken out of an ancient Book remaining with Master Hambden, sometimes Master of the Swannes," caused to be printed by John Witherings, Esq., Master and Governour of the Royal Game of Swans throughout England, to whom it is dedicated by John D'Oyly, from Alborn, in Wiltshire, with the plates of the marks used to distinguish the Swans.

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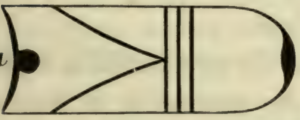
* Many Swans were formerly kept below bridge. In ancient views of the port of London, they are usually represented as swimming in that part of the river.

a



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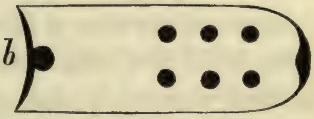

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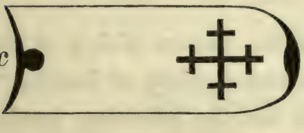

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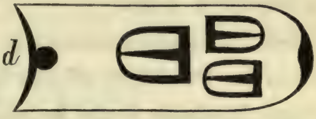

The marks distinguished by the letters, *a*, and *b*, are those of Charles the First and his Queen. The next, *c*, and *d*, are those of Oxford and Cambridge. The city of Oxford has a game of Swans by prescription, though none are now kept. In the sixteenth century, when a state dinner was not complete unless a Swan were included in the bill of fare, this game of Swans was rented upon an engagement to deliver yearly four fat Swans, and to leave six old ones at the end of the term. By the corporation books it also appears that in 1557, barley was provided for the young birds at fourteen pence a bushel, and that tithes were then paid of Swans. I learn also from the Rev. Dr. Thackeray, Provost of King's College, Cambridge, that the old Munden books of that College contain entries of payments made for feeding Swans.

But the most curious books on swan-marks that I have as yet seen, were two in the library at Strawberry Hill, which were sold in April 1842. They appeared in the catalogue on the 6th day, and 8th lot, as, "Two books of swan-marks, 8vo. on vellum, very rare." One of them contained 810 marks, the other 80 marks: both books commenced with a royal mark. There was no explanation or description of the different marks, only the name of the party to whom the mark had been appropriated, in the characters of the time of Elizabeth.

No. 9, the first swan-mark of the representations forming the final vignette, is that of the corporation of Norwich, now used to mark the Swans belonging to the corporation on the river Yare.

No. 10, is the swan-mark of the present Bishop of Norwich, the President of the Linnean Society of London, to whose kindness I am indebted for the following particulars as now practised at Norwich, in reference to the feeding the young Swans of the year for the table. The town-clerk sends a note from the Town-hall to the public swanherd, the corporation and others, who have Swans and Swan rights. On the second Monday in August, when collected in a small stew or pond, the number annually varying from fifty to seventy, and many of them belonging to private individuals,* they begin to feed immediately, being provided with as much barley as they can eat, and are usually ready for killing early in November. They vary in weight, some reaching to twenty-eight pounds. They are all cygnets. If kept beyond November they begin to fall off, losing both flesh and fat, and the meat becomes darker in colour and stronger in flavour. A printed copy of the following lines is usually sent with each bird.

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* Bloomfield's History of Norfolk contains representations of numerous swan-marks.

TO ROAST A SWAN.

Take three pounds of beef, beat fine in a mortar,
Put it into the Swan—that is, when you 've caught her.
Some pepper, salt, mace, some nutmeg, an onion,
Will heighten the flavour in Gourmand's opinion.
Then tie it up tight with a small piece of tape,
That the gravy and other things may not escape.
A meal paste, rather stiff, should be laid on the breast,
And some whited brown paper should cover the rest.
Fifteen minutes at least ere the Swan you take down,
Pull the paste off the bird, that the breast may get brown.

THE GRAVY.

To a gravy of beef, good and strong, I opine,
You 'll be right if you add half a pint of port wine;
Pour this through the Swan, yes, quite through the belly,
Then serve the whole up with some hot currant jelly.
N.B. The Swan must not be skinned.

In former times the Swan was served up at every great feast; and I have occasionally seen a cygnet exposed for sale in the poulterers' shops of London, but not very lately.

No. 11. Eton College has the privilege of keeping Swans on the Thames, and this is the College swan-mark. It is intended to represent the armed point, and the feathered end of an arrow, and is here represented as cut on the door of one of the inner rooms in the College.

Nos. 12 and 13 are derived from Mr. Kempe's interesting publication of the Losely Manuscripts, and represent the swan-marks of the Dyers' and Vintners' Companies of the City of London, as used in the reign of Elizabeth. These two companies have long enjoyed the privilege of preserving Swans on the Thames, from London to a considerable distance, some miles above Windsor, and they continue the ancient custom of proceeding with their friends and visiters, with the royal swanherd's man, and their own swanherds and assistants, on the first Monday of August in every year, from Lambeth, on their Swan voyage, for the purpose of catching and marking all the cygnets of the year, and renewing any marks in old birds that may by time have become partially obliterated. Mr. Kempe says, "the struggles of the Swans when caught by their pursuers, and the duckings which the latter received in the contest, made this a diversion with our ancestors of no ordinary interest."

The forming circles or annulets on the beak, as observed in these two ancient marks, being considered as inflicting more severe pain upon the bird than straight lines, these rings are now omitted, and the lines doubled, as shown in the marks numbered 14 and 15, which are those of the Dyers' and Vintners' Companies as used at this time. Nos. 12 and 14 being the ancient and modern mark of the Dyers' Company: Nos. 13 and 15, the ancient and modern mark of the Vintners' Company.

The two nicks in the swan mark of the Vintners' Company, which have so often been the subject of notice, are probably intended for two half lozenges, or a demi-lozenge, on each side; the V is perhaps a chevron reversed; the arms of the company being—Sable, a chevron between three tons, argent. I think it probable that the V is only the chevron reversed, for the true chevron could scarcely be cut on the beak of the bird without each lateral branch crossing its elongated and tender nostril, and this, from a feeling of humanity, the marker would also be disposed to avoid. The chevron reversed, for many of these swan-marks are evidently heraldic, had the additional adaptation of representing the initial letter of the word Vintner, and forming, also, the Roman numeral *five*, is further borne in mind, and perhaps intended to be referred to, at their hospitable entertainments, where one of the regular stand-up toasts of the day is, the Worshipful Company of Vintners, with *five*—.

Mr. Kempe appears to discountenance the popular notion that the sign of the Swan with two *necks* has any reference to the two *nicks* in the swan-mark of this company; but the sign has been considered a fair heraldic personification of the term; united, as it is, with the following considerations: that the Swan has been for some hundred of years identified with the Vintners' Company and its privileges; that the principal governing officers of the company for the time being are, a Master and three Wardens, the junior Warden of the year being called the Swan Warden; that models of Swans form conspicuous ornaments in their Hall; and that the first proprietor of the well-known inn, the Swan with Two Necks, was a member of the Vintners' Company.

No. 16 is the Royal swan-mark of our Most Gracious Queen Victoria. This mark has been used through the reigns of George the Third, George the Fourth, and William the Fourth, to the present time.

By the kindness of a friend I have been favoured with an account of the whole number of old and young Swans belonging to Her Majesty, and the two Companies, at the last Swan voyage, in August 1841.

	OLD SWANS.	CYGNETS.	TOGETHER.
Her Majesty	185	47	232
The Vintners' Company	79	21	100
The Dyers' Company	91	14	105
	365	82	437

But the numbers formerly were much greater; at one period, the Vintners' Company alone possessed five hundred birds.

In the language of swanherds, the male Swan is called a Cob, the female a Pen: these terms refer to the comparative size and grade of the two sexes; the young during their first year, are called Cygnets; during the second, Grey-birds; afterwards, their plumage being perfect, White Swans. The black tubercle at the base of the beak is called the berry, and a Swan without any mark on the beak is said to be clear-billed.

For a reference to the various statutes, laws, orders, &c. on Swans and swan-marks, see the article, Swan, written by Mr. Sergeant Manning, in the Penny Cyclopœdia, from which I have made some short extracts.

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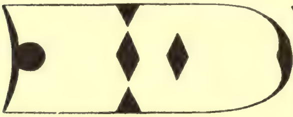

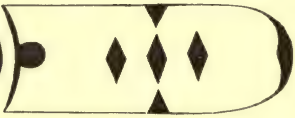

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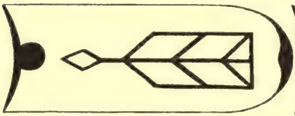

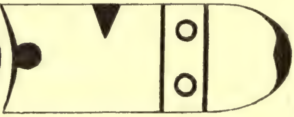

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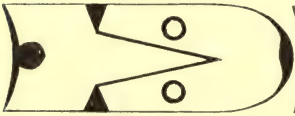

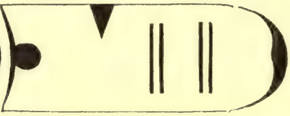

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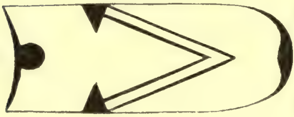

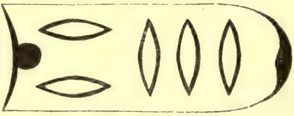

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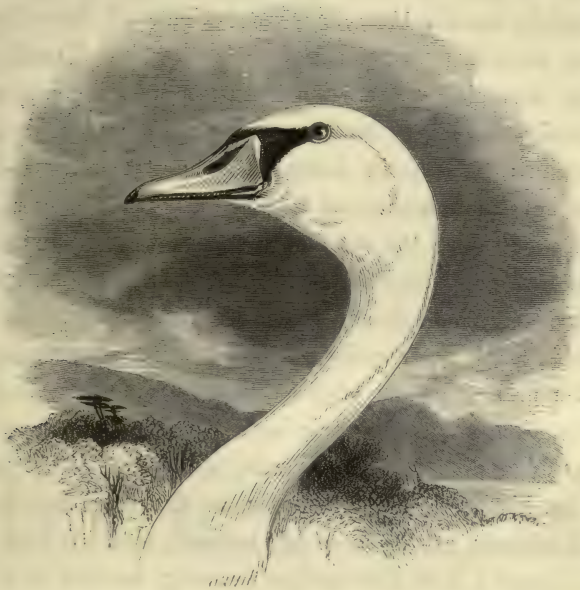


THE POLISH SWAN.

Cygnus immutabilis.

Cygnus immutabilis, Polish Swan, YARRELL, Proc. Zool. Soc. 1838, p. 19.

THE London dealers in birds have long been in the habit of receiving from the Baltic a large Swan, which they distinguish by the name of the Polish Swan. I had reason to believe that this Swan would prove to be a distinct species, though even more nearly allied externally to our Mute Swan, than the Bewick's Swan is to the Hooper. Previous to the year 1836, a nobleman wrote to the late Mr. Joseph Sabine, to inquire what was the name of a tame Swan he had seen with her brood, the Cygnets of which were all white; and in the spring of 1836, the

Ornithological Society of London purchased of Mr. Castang, the dealer in birds, whose name was referred to under the article on the Hooping Swan, a pair of these Polish Swans with a young bird of their own brood, and this cygnet was also white. This appeared to be a specific peculiarity worthy of consideration ; the parent birds were remarkable besides, in having the legs, toes, and their intervening membranes of a pale ash-grey colour ; the black tubercle at the base of the beak was of small size, and there is a slight difference in the nostrils, the elongated openings of which do not reach the black colour at the base of the beak, on each side, but are entirely surrounded by the orange colour of the beak, as shown in the representation. Unfortunately both the old female and the young bird died in the following winter. The old male, now in his ninth or tenth year, at the least, has but a small tubercle at the base of the beak, and his legs and feet, though a little darker than formerly, are still of a pale slate grey. This bird has never paired ; and can scarcely be said to associate with any of the Mute Swans on the same water.

In the months of January and February 1838, Swans of all sorts were more abundant than I ever remember to have seen them, and I have already adverted to the great number of Hoopers and Bewick's Swans which were seen and killed at that season. The more intense the frost, the farther south do the usual winter visiters extend their range ; while new, or very rare species from extreme northern latitudes are occasionally obtained.

During the severe weather of January 1838, several flocks of these Polish Swans were seen pursuing a southern course along the line of our north-east coast, from Scotland to the mouth of the Thames, and several specimens were obtained. The specimen I exhibited, by permission, at the evening meeting of the Zoological Society, belonged to the Rev. L. B. Larking, of Ryarsh Vicarage, near Maidstone, for whom it had been preserved by Mr. Leadbeater. It was one of four, shot on the Medway, near Snodland Church, where a flock of thirty, and several smaller flocks were seen.

The circumstance of these flocks being seen, without any observable difference in the specimens obtained, all of which were distinct from our Mute Swan; the fact, also, that the cygnets, as far as observed, were of a pure white colour, like the parent birds, and did not assume, at any age, the grey colour borne for the greater part of the first two years by the young of the other species of Swans; and an anatomical distinction in the form of the cranium, to be hereafter noticed, which was described by Mr. Pelerin, in the Magazine of Natural History, induced me to consider this Swan entitled to rank as a distinct species, and, in reference to the unchangeable colour of the plumage, I proposed for it the name of *Cygnus immutabilis*.

I have very recently been favoured with a letter from the Earl of Derby, who some years since purchased a pair of Polish Swans in London, and sent them to Knowsley. The female in this instance also, unfortunately, died. The male paired with a Mute Swan, and a brood was produced. A Polish Swan has also paired with a Mute Swan on the waters in the Phœnix Park devoted to the use of the Dublin Zoological Society. I was told by an excellent naturalist who has very recently seen these birds, that he was satisfied of the distinction between them on seeing them side by side.

I have heard of one Polish Swan shot in Cambridgeshire, and now preserved in the Wisbeach Museum; and another was shot in the winter of 1840-41. This species, however, does not appear to have been distinguished elsewhere from the Mute Swan, and I am therefore unable to name any foreign geographical localities as producing it, beyond the probability of its inhabiting those countries in the vicinity of the Baltic.

In the adult bird the beak is reddish-orange; the nail, lateral margins, nostrils, and base of the upper mandible black; the peculiarity of the nostril has been noticed; the tubercle, even in an old male, of small size; the irides brown; the head, neck, and the whole of the plumage pure white; legs, toes, and intervening membranes slate-grey.

From the point of the beak to the end of the tail fifty seven inches. From the carpal joint to the end of the second quill-feather, which is the longest in the wing, twenty-one inches and a half; tarsus four inches; middle toe and nail five inches and three-quarters.

Its food and habits closely resemble those of the Mute Swan.

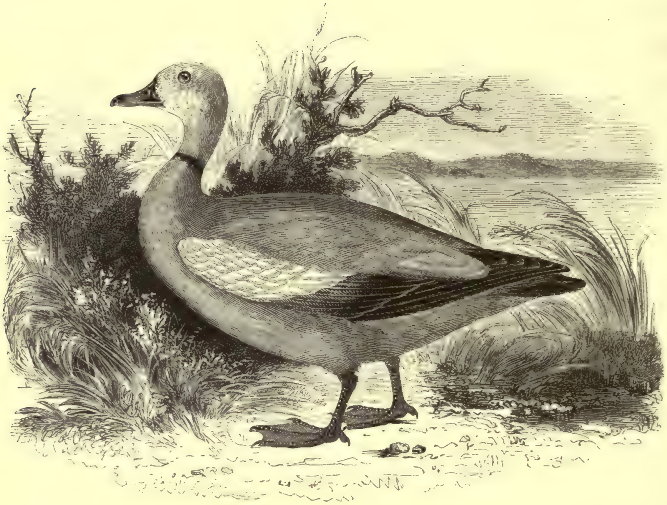
The organ of voice appears, from one that I examined, to be like that of the Mute Swan; but Mr. Pelerin has found considerable differences in various parts of the head; the description and measurements were given in a paper published in the Magazine of Natural History for 1839, page 178, from which the following is an extract.

The measurement of an adult cranium of each is as follows:—Length, from the tip of the bill to the base of occipital bone in *C. immutabilis*, six inches and three-eighths; *C. olor*, six inches and seven-eighths. Height, from the bottom of the lower mandible when closed, to the top of the protuberance at the base of the bill, in *C. immutabilis*, one inch and five-eighths; *C. olor*, two inches.

Height, from the base of the under jaw to the vertex of the head, just behind the orbit of the eye, in *C. immutabilis*, two inches and one-eighth; *C. olor*, two inches and one-quarter. In *C. immutabilis* the bill is rather more flattened, particularly in the middle, between the *dertrum*, or nail, and the nostrils; the protuberance at the base of the upper mandible is less developed. In the Polish Swan the cranium is highest at the supra-occipital portion; in the Mute Swan the cranium is highest at the supra-orbital portion; but the greatest difference is perceptible on comparing the occipital bones; the upper portion of this bone in *C. immutabilis* protrudes considerably more, and there are two oval *foramina*, one on each side just above the *foramen magnum*, which are not present in any specimens of *C. olor* that I have examined; the portion forming the boundary of the external orifice of the ear is much more prominent, and the condyle forms a more acute angle with the basilar portion of the occipital bone.

I have verified all Mr. Pelerin's observations.

NATATORES. *ANATIDÆ.*



THE RUDDY SHIELDRAKE.

Tadorna rutila.

Anas rutila,	*Ruddy Goose,*	Bewick, Brit. Birds, vol. ii. p. 330.
Tadorna „	„ *Shieldrake,*	Jenyns, Brit. Vert. p. 229.
„ „	„ „	Selby, Brit. Ornith. vol. ii. p. 293.
„ „	„ „	Gould, Birds of Europe, pt. xix.
Anas „	*Canard Kasarka,*	Temm. Man. d'Ornith. t. ii. p. 832.
„ „	„ „	„ „ „ pt. iv. p. 531.

Tadorna. *Generic Characters.*—Beak about the length of the head, higher than broad at the base, depressed or concave in the middle; breadth nearly equal throughout; under mandible much narrower than the upper, the latter grooved near the tip; nail curved downwards forming a hook; both mandibles furnished with strong transverse lamellæ. Nasal groove near the base of the beak; nostrils oval, lateral, pervious. Legs of moderate length; the tibiæ naked for a short space above the tarsal joint; toes three in front, entirely webbed; one behind free, without any pendent membrane or lobe. Wings of moderate length, tuberculated, pointed, the second quill-feather the longest. The sexes alike in plumage, or very nearly.

Without intending to follow some systematic ornithologists in their numerous modern divisions of the old genus

Anas, I feel justified in adopting the genus *Tadorna*, instituted by Dr. Leach and Dr. Fleming in 1822, and revived by Boié in 1826, for the reception of the Ruddy Shieldrake, and the Common Shieldrake, which in some respects resemble the true Geese, particularly in the circumstance of the females being very nearly in plumage of the same colour as that of the males, which is not the case in the true Ducks. The similarity of the Shieldrakes to the Egyptian Goose in several points will be obvious, and they are frequently called Geese.

G. T. Fox, Esq. of Durham, appears first to have noticed this bird as British, from an example in the Museum at Newcastle, which had formerly belonged to Marmaduke Tunstall, Esq., this was believed to have been killed at Bryanstone, near Blandford in Dorsetshire, the seat of Mr. Portman, in the severe winter of 1776; the same frost of which season, as Mr. Fox remarks, produced the Red-breasted Goose, also in that collection, a bird of equal rarity, and, like the present one, a native of the eastern parts of Europe. As the specimen is a female, there is no doubt that this is the Grey-headed Duck of Brown's Illustrations. Two other specimens have, however, been killed since, and no question, therefore, exists of the propriety of including it among our British Birds. Mr. Selby mentions a specimen, now in his own collection, killed in the south of England, which was at first lent to him by Mr. Gould to figure from; and in January 1834, a specimen was shot at Iken near Orford, on the coast of Suffolk, which passed into the possession of Mr. Manning, of Woodbridge.

This species has a very wide geographical range: Pennant received a specimen from Denmark; it is found in all the southern parts of Russia and Siberia, and the eastern parts of Europe generally; it is sometimes obtained in Germany, Hungary, and Austria; has been killed a few times in Italy, according to Savi; and it is said to be found in Africa as far south as the Cape. It has been found in Persia, Asia Minor, at Trebizond, and in the countries about the Caucasian range. Mr. Strickland says it is frequently to be seen in the poultry shops at Smyrna, but owing to the Turkish practice of cutting the throats of birds as soon as shot, he was unable to obtain a perfect specimen. Messrs. Dickson and Ross say this species is abundant at Erzeroom, frequents marshes during the day, but feeds late in the evening and early in the morning in corn and stubble fields. Arrives there about the middle of March, and departs at the end of November; rarely seen in the water. Said to breed in the marshes. Great numbers on the Lake of Van in August, Native name, *Ahngoot.* Colonel Sykes includes this species in his Catalogue of the Birds of the Dukhun; it has since been obtained in North-western India, in Nepal, and in the vicinity of Calcutta.

The food of this duck consists of aquatic plants and their seeds, insects, and the fry of fish. Latham says it makes its nest in the craggy banks of the Wolga, and other rivers, or in the hollows of the deserted hills of marmots; forming it after the manner of the Shieldrake, and it is said to make burrows for itself in the manner of that bird; builds sometimes in the shaft of an old well that is not used, and has been known also to lay in a hollow tree, lining the nest with its own feathers. They pair, and the male and female sit by turns. They lay eight or nine white eggs. When the young come forth the mother will often carry them from the place of hatching to the water, with the bill. Have been attempted to be domesticated, by rearing the young under tame Ducks, but without success, as they remain wild, effecting their escape the first opportunity; and if the old ones are taken and confined, they lay their eggs in a dispersed manner, and never sit. The voice of the bird when flying is not unlike the note of a clarionet: at other times it cries like a Peacock, especially when kept confined; and now and then clucks like a hen. The organ of voice is unknown to me. Each bird is very choice of its mate, for if the male is killed the female will not leave the gunner till she has been two or three times shot at. Quoting the Memoirs of the Baron de Tott, who travelled in Tartary and the Crimea, Latham says, the Tartars pretend that the flesh of this bird is exceedingly *dangerous:* "I tasted it," says he, "and only found it exceedingly *good-for-nothing*." These birds go in pairs during the summer; at other times gregarious.

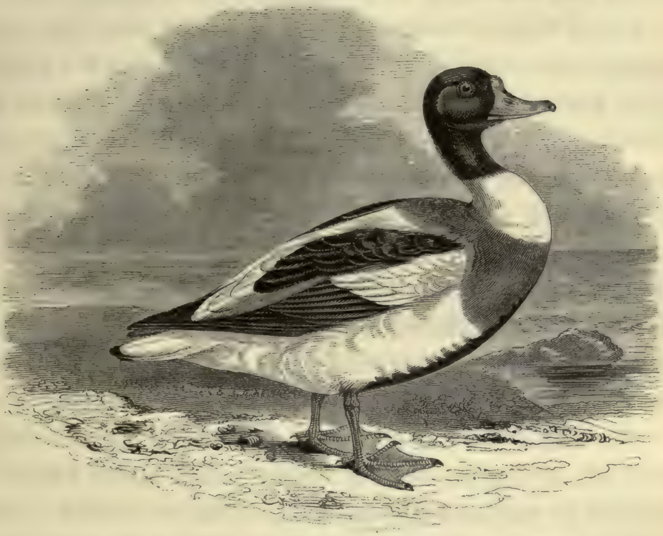
In the adult male the beak is lead colour; the irides yellowish-brown; head, cheeks, and chin buff colour, becoming darker, almost an orange-brown, towards the lower part of the neck all round; towards the bottom of the neck a ring of black; the back, tertials, breast, and all the under surface of the body the same; the point of the wing, and the wing-coverts pale buffy white; wing-primaries lead grey, almost black; secondaries rather lighter in colour, the outer webs short of the end, forming a brilliant green speculum; rump and tail-feathers lead-grey; legs, toes, and their membranes brownish-grey.

Whole length twenty-five or twenty-six inches; the females are rather smaller in size; and the female in the Newcastle Museum is thus described by Mr. Fox:—"The crown of the head and the neck is of a mouse-grey; the front, cheeks, and throat pure white. The whole of the breast, belly, upper part of the back, and scapular feathers, which are very long, of a light ferruginous, which is the prevailing colour of the bird. The feathers are broad at their end, semicircular, and tipped with a lighter colour, which form semicircular lines all over the body. The wing-coverts are white, which forms a broad space on the wing; below this the secondary quills are green, forming a speculum; the greater quills brown, darker on the edges, which has occasioned them to be described as black; the same applies to the tail and back, which is nearly covered by the scapulars, both of which are dark brown, with a greenish tinge. The legs are dark coloured; the toes largely webbed, and the webs black. At the bend of the wing is a blunt knob. Beneath, on the sides of the vent, are the rudiments of a bar of mottled feathers, and the feathers of the thighs, and some of the vent feathers are lighter than those of the rest of the body."

The male is distinguished from the female in having a black collar round the neck, from which circumstance it has been called the Collared Duck; it has also been called the Ruddy Goose.

Bewick has figured the female; I have therefore purposely given the figure of a male.

This species is very rarely found at sea.



THE COMMON SHELLDRAKE.

THE SHIELDRAKE, OR BURROW DUCK.

Tadorna vulpanser.

Anas Tadorna,	*The Shieldrake,*	PENN. Brit. Zool. vol. ii. p. 256.
" "	" "	MONTAGU, Ornith. Dict.
" "	" "	BEWICK, Brit. Birds, vol. ii. p. 357.
Tadorna Vulpanser,	*Common* "	FLEM. Brit. An. p. 122.
" "	" "	SELBY, Brit. Ornith. vol. ii. p. 289.
" *Bellonii,*	" "	JENYNS, Brit. Vert. p. 229.
" *Vulpanser,*	" "	GOULD, Birds of Europe, pt. viii.
Anas Tadorna,	*Canard Tadorne,*	TEMM. Man. d'Ornith. vol. ii. p. 833.
" "	" "	" " " pt. iv. p. 531.

THE SHELLDRAKE or Shieldrake is one of the most beautiful in appearance of our ornamental water-fowl: the various colours of its plumage are pure and brilliant, strongly contrasted; their limits well defined; and the birds are retained in a state of domestication without difficulty. This species differs greatly from that of the same genus last described, in being rarely seen inland, unless in a semi-domestic state and pinioned; but some are constantly found on the sea-coast, and that during the whole year, preferring flat shores, sandy bars, and links, where it breeds in rabbit burrows, or other holes in the soft soil, and hence has obtained the name of Burrow Duck, and Bar Gander, which Dr. Turner considers is derived from berg and gander, because it also builds in rocks. In Scotland it is called Skeeling Goose, according to Sibbald, and other writers since his time. Many Shieldrakes come from the north to visit this country for the winter, returning again in the spring.

The authors of the Catalogue of the Norfolk and Suffolk Birds mention that it breeds in the rabbit burrows formed in the sand-hills upon the coast of Norfolk. Its nest is discovered by the print of its feet on the sand, and therefore most easily found in calm weather; for in windy weather the driving sand soon obliterates the impression. The old bird is sometimes taken by a snare set at the mouth of the burrow. The eggs are often hatched under domestic hens, and the birds thus obtained kept as an ornament on ponds.

Mr. Selby mentions that these birds are also regular inhabitants of the sandy parts of the Northumbrian coast, and during the breeding-season the holes in the earth frequented by them are furnished with bents of grass and other dry vegetable materials, forming a nest sometimes as far as ten or twelve feet from the entrance, and lined with fine soft down, plucked from their own breasts. They lay from ten to twelve eggs, and sometimes more; these are rather large, of a smooth shining white, about two inches nine lines in length, and one inch eleven lines in breadth. Incubation is said to last thirty days, during which time the male watches near at hand, taking his turn upon the eggs morning and evening, while his mate goes off to pick up her hasty meal. When the young are hatched they follow the parents, and in some situations are even carried by them in their bills to the water, where they soon learn to feed and take care of themselves. Their food is various, namely, seaweed, bivalve and other shelled mollusca, sandhoppers, sea-worms, marine insects, and the remains of shell-fish. I have found the stomach of this species filled with very minute bivalve and univalve mollusca only, as though they had sought no other food; a predilection which may have given rise to the name of Shell-drake; or it may be so called, because it is particoloured; and the term Shield-drake may have had its origin in the frequent use made of this bird in Heraldry: the family of Brassey, of Hertfordshire,* and several other families in this country, bearing in their arms this bird on their shield, and sometimes as a crest. In captivity they feed on grain of any sort, soaked bread, and vegetables. Their note is a shrill whistle. The flesh of the Shieldrake is coarse and bad, dark in colour, and unpleasant both in smell and flavour.

Montagu and other writers have mentioned that this species does not breed readily in confinement. The following hint may be of service. When the Zoological Society first had a pair of these birds, they exhibited no signs of breeding, but their natural habits being consulted by putting them into another place, where there was a bank of earth, into which some holes were purposely made, the birds immediately took to one of the holes and went to nest there, bringing out a brood in 1835, and again in 1836. Of what has happened with them since I have no notes; but in the present season, 1841, there is a fine and numerous show of young birds, from which the description of the plumage of the birds of the year in their immature dress will be hereafter given. As observed by Mr. Selby, the young birds soon become tolerably tame, and answer to the call of the person who feeds them; when fully fledged, however, being very active, they are apt to stray away, and if left unpinioned, generally in time fly entirely off, though they have been known, in some instances, to return after an absence of many months.

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* Brassey bears quarterly, per fess indented sable and argent, in the first quarter, a Shieldrake. Crest on a mount, a Shieldrake.

Colonel Hawker, in reference to their habits, says, "The young Shelldrakes, directly after being hatched in the rabbit-burrows, are taken by the parent birds to the sea, where they may be seen in what the boatmen call troops, of from thirty to forty; but as the female seldom hatches more than fourteen eggs, it is clear that each flock is formed by two or three broods. On their being approached, the old ones fly away, and leave the young to shift for themselves by diving. They may be easily shot when they come up, but you can seldom kill more than one or two at a time, as they always disperse before you can get very near them.

"These birds show but tame sport with a gun, and are good for nothing when killed. But, in winter nights, they often give you a fine shot on the mud, though they are so white that you can seldom perceive them, even afloat, without a good moon. Be prepared to fire directly you rise; as they, being very quick-sighted birds, will give you but little time to present your gun. We had a great many Burrow Ducks on our coast, Hampshire and Dorsetshire, during the last hard winter. They were the wildest of birds till half starved by the freezing of the shell-fish, and then they became the tamest of all wild-fowl."

"You may keep young Burrow Ducks for five or six weeks, provided you give them crumbs of bread, and only a little water three times a day. But if you let them get into the water, or even drink too much before they are full grown, and fit to be turned out on your pond, you are almost sure to kill them. This appears quite a paradox with birds that, in their wild state, are always in the water; but such is the case."

This bird is found on most of the sandy parts of the coast of Ireland, and in Scotland as far as the Shetland Isles, but is more common in those of Orkney, where Dr. Patrick Neill says "it has got the name of Sly Goose, from the arts which the natives find it employs to decoy them from the neighbourhood of its nest: it frequently feigns lameness, and waddles away with one wing trailing on the ground, thus inducing a pursuit of itself, till, judging its young to be safe from discovery, it suddenly takes flight, and leaves the outwitted Orcadian gaping with surprise."

Mr. Dann tells me this beautiful Duck appears early in May in great numbers on the Swedish coast, where they breed; and that they are found on the west coast of Norway, as high as Drontheim, in small numbers.

It is found both in the northern and western countries of Europe, on the borders of the sea. M. Temminck says it is abundant in Holland, on the coasts of France, and occasionally visits the rivers of Germany. M. Savi includes it in his Birds of Italy; and it visits Corfu, Sicily, and Malta in winter occasionally. Keith Abbott, Esq. sent the Zoological Society specimens from Trebizond.

B. Hodgson, Esq. includes it among the Birds of Nepal; and M. Temminck says this species is found in Japan.

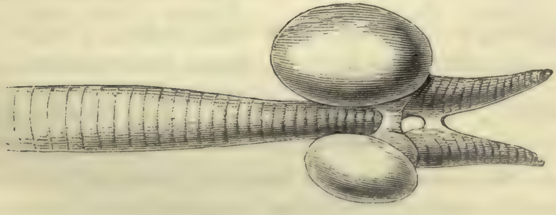
In the adult male the beak is vermilion; the irides brown; the whole of the head and upper part of the neck green, bounded by a collar of white, and below that a collar of rich chestnut, which covers the upper part of the breast, the space before the point of the wings, and the upper part of the back; the rest of the back, the rump, and upper tail-coverts white: scapulars and part of the tertials nearly black; the longest tertials with the outer webs rich chestnut; point of the wing and all the wing-coverts white; primaries very dark brown; the speculum of the secondaries green; tail-feathers white, tipped with black; lower central line of the breast and belly rich dark brown; sides, flanks, vent, and under tail-coverts white; legs, toes, and their membranes flesh colour.

Whole length twenty-four to twenty-six inches. From the carpal joint to the end of the wing thirteen inches; the second quill-feather the longest. The female is rather smaller than the male, and not quite so bright in her colours.

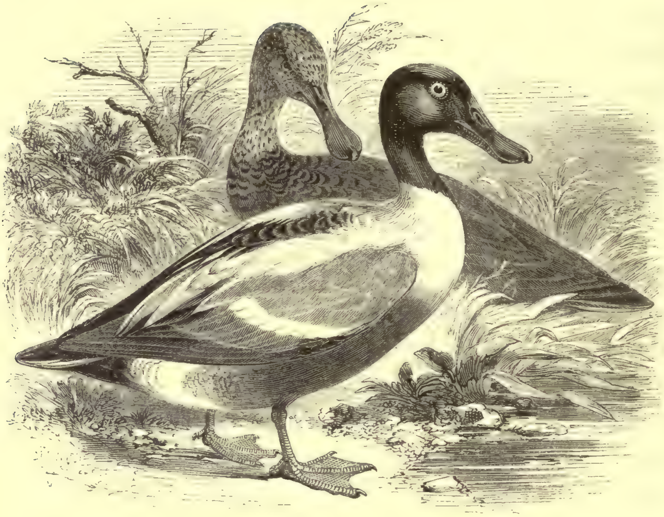
The young of the year in August have the beak flesh colour; the head and neck brown; chin and front of the neck white; interscapulars and wings brown; wing-coverts white; tertials white, but edged with chestnut, the first appearance of that colour; primaries black; speculum becoming green; all the under surface white; legs flesh colour.

The young birds do not breed till they are two years old.

I have referred, in the present volume, to the peculiar character of the organs of voice in some of the Geese and Swans, and in almost all the Ducks and Mergansers, forming together the large, the valuable, and interesting family of the Anatidæ; and I may here refer particularly to that organ as found in the Shieldrake, which is so entirely distinguished from that of any other species, as at once and alone to afford, as far as I have yet seen, a decided specific character. The trachea, or windpipe, in the Shieldrake is about ten inches long, nearly uniform in size throughout its length, except towards the bottom, where, for about one inch, it is much smaller. On each side of the bone of divarication, forming the bottom of the tube, there is a globular, hollow, bony protuberance, that on one side being as large again as the one on the other. The bone is thin, and so flexible when in its moist and natural state as readily to become indented on pressure. The representation given below is only a little smaller than the natural size. The tube below each enlargement, going off, one to each lobe of the lungs, presents nothing remarkable.



NATATORES. *ANATIDÆ.*



THE SHOVELER,*

BLUE-WINGED SHOVELER, OR BROAD-BILL.

Anas clypeata.

Anas clypeata,	*Shoveler Duck,*	PENN. Brit. Zool. vol. ii. p. 264.
„ *rubens,*	*Red-breasted Shoveler,*	„ „ „ „ p. 265.
„ *clypeata,*	*The Shoveler,*	MONTAGU, Ornith. Dict.
Spathulea „	„ „	FLEM. Brit. An. p. 123.
„ „	*Common* „	SELBY, Brit. Ornith. vol. ii. p. 297.
Anas „	„ „	JENYNS, Brit. Vert. p. 230.
Rhynchaspis „	*Shoveler Duck,*	GOULD, Birds of Europe, pt. xix.
Anas „	*Canard souchet,*	TEMM. Man. d'Ornith. vol. ii. p. 842.

ANAS. *Generic Characters.*—Bill about as long as the head, broad, depressed, sides parallel, sometimes partially dilated; both mandibles furnished on the inner edges with transverse lamellæ. Nostrils small, oval, lateral, anterior to the base of the beak. Legs rather short, placed under the centre of the body; tarsus somewhat rounded; toes three in front, connected by intervening membrane; hind toe free, without pendent lobe or membrane. Wings rather long, pointed. Tail pointed, or wedge-shaped. The sexes differ in plumage.

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* The Shoveler,—genus *Spathulea*, Fleming, 1822; *Rhynchaspis*, Stephens, 1824; and *Clypeata*, Brehm. 1831.

The first division, or genus, of the true Ducks, as here arranged, will contain the Shoveler, Gadwall, Pintail, Bimaculated Duck, Wild Duck, Garganey, Teal, and the Wigeons, all of which will be found to have the following characters in common. Externally they exhibit considerable length of neck; the wings are also long, reaching nearly to the end of the tail; the tarsi somewhat round; the hind toe free, or having no pendent lobe. In habits they may be stated generally as frequenting fresh-water, but passing much of their time on land, feeding in ditches and about the shallow margins of pools, on aquatic plants, insects, worms, and occasionally on small fish, taking their food at or near the surface; possessing great powers of flight, but seldom diving unless pursued. Of their internal soft parts, the stomach is in the greatest degree muscular, forming a true gizzard; the intestines long; the cæcal appendages from six to nine inches in length, in the larger birds, and decreasing only in proportion to the size of the species. Of the bones it may be observed, that the ribs are short, the angle formed by the union of the last pair on each side extending but little beyond the line of the posterior edge of the sternum; the keel of the breast-bone deep, affording great extent of surface for the attachment of large and powerful pectoral muscles; the enlargement at the bottom of the trachea, in all of them, is of bone only.

The males of the species of this division are further remarkable for a particular change in the colours of some parts of their plumage, by which they become, for a time during summer, more or less like their females. This alteration in appearance, produced by a partial production of new feathers, and a change of colour in others, is very remarkable in the Pintail; and Colonel Montagu was the first, I believe, to record in print the annual change which takes place in that species. The change which the Mallard undergoes has since been observed and described by Mr. Waterton. The Shoveler and others also suffer a partial change of this sort, to be hereafter noticed. The cause or the utility of this change has not been explained, that I am aware of. Mr. Gould says, "as we have observed that this change is common to the males of those species that more especially breed in marshes, among reeds, &c., and as it generally takes place at the period of incubation, may it not serve as a protection to the species by rendering the fostering parent less conspicuous at this critical period, than he would be were he to retain the gay nuptial dress, which would present so strong a contrast to the sombre-tinted vegetation among which it is necessary for him to remain, until the young are able to provide for themselves? But to this view of the subject it may be mentioned, that as soon as the females begin to sit, the males desert them, and the whole charge of each young brood devolves upon the female, the males going together in small flocks, intent only on providing for and taking care of themselves.

The Shoveler is to be considered generally as a winter visiter to this country, but some remain every year to breed. They inhabit marshes, lakes, rivers, and muddy shores, selecting their food in shallow water, by the instrumentality of their sensible beak, the laminated sides of which being abundantly supplied with nerves, enable them to retain the nutritious, and reject the useless. They feed on some grasses and other vegetables, with worms, aquatic and other insects, even some insects that are winged; Gesner, on that account, called this species *Anas muscaria*, and Vieillot says, that at the present time, one of its common names in France is *Canard gobe-mouche.* Shrimps have been found in its stomach; and Mr. Audubon mentions that in North America, in some parts of which this Duck is abundant, it feeds upon leeches, small fishes, ground-worms, and snails. The flesh is tender, juicy, and of good flavour. The excellence of the Canvass-back Duck of America, as an article of food, is proverbial, yet Mr. Audubon also says, that no sportsman who is a judge will ever go by a Shoveler to shoot a Canvass-back.

Wild-fowl are probably more plentiful on the eastern side of England, from Essex to Lincolnshire, than in most other counties, perhaps, because they are opposite, and nearest to Holland, where most of them are very abundant. Mr. Salmon mentions that a pair bred annually amongst some green rushes on the warren at Stanford, in Norfolk. The Rev. Richard Lubbock, in a communication to me from Norfolk, says, "the Shoveler used frequently to breed at Winterton, Horsey, &c., and has not yet discontinued. I have seen two nests at different times; eight eggs in one, nine in the other, placed in a very dry part of the marsh, at a considerable distance from the Broad." The authors of the Catalogue of the Norfolk and Suffolk Birds, say, "the Shoveler remains all the year in Norfolk. We have twice met with its nest in Winterton Marshes. It was placed in a tuft of grass, where the ground was quite dry, and was made of fine grass. After the female begins to sit, she covers her eggs with down plucked from her body. In the spring of 1818 the warrener at Winterton found several nests belonging to this species, containing in the whole fifty-six eggs." Mr. J. Youell, of Yarmouth, in a communication to the Linnean Society, says, that he, in one season, obtained upwards of thirty eggs of the Shoveler

Duck. These eggs were put under some domestic fowls, and most of them were hatched; but he succeeded in rearing only two of them. Their bills, when a few days old, were not longer than those of the domestic Duck, but at the age of three weeks they had obviously increased in length more than those of the common duckling. One of these birds, a male, lived till it was ten months old, and then had attained in a considerable degree the adult plumage of the Shoveler.

That the bill of the young Shoveler when hatched is not dilated laterally, as has been described, I can myself answer. During the summer of 1841 a pair of Shovelers made a nest, and brought out their young on one of the islands in the Garden of the Zoological Society; the bills of these ducklings were as narrow, and the sides as parallel, as the bills of some young Gadwalls which were hatched at the same time on an island in the same piece of water. The egg is buffy white, tinged with green; two inches two lines long, by one inch and six lines in breadth.

The Shoveler has bred with the Garganey, and a young male bearing many indications of both parents, was presented to the Zoological Society by Lord Saye and Sele. This interesting bird was kept during one summer in a small pond with a female Garganey, and a female Shoveler, but without success, and the bird died in the following winter.

Although the Shoveler formerly bred in Romney Marsh, it is now comparatively rare there, and also along the line of the southern counties to Cornwall. It is not uncommon in North Wales in winter, and probably breeds in Ireland. Mr. Heysham has met with it only a few times in the western parts of Cumberland. It is not mentioned as visiting Orkney or Shetland; and Mr. Dann tells me this

Duck is by no means common in the parts of Scandinavia where he resided, but is chiefly confined to the south of Sweden. It is found in Gothland, in Russia and Germany; is abundant in Holland; breeds regularly in the marshes of France, and the Zoological Society have received it from Oporto. It is seen on its passage about Genoa and in Italy twice in every year, in the spring and again in November; is found at Corfu, Sicily, and Malta during the winter, and frequents the northern parts of Africa, is called in consequence the Barbary Shoveler; and specimens have been brought from South Africa by Dr. Andrew Smith. Mr. Strickland observed this species at Smyrna in winter; Messrs. Dickson and Ross sent the Zoological Society specimens from Erzerum; and the naturalists of the Russian expedition found it on the shores of the Caspian Sea. The Shoveler has been found in the north-western parts of India. Colonel Sykes includes it among the Birds of the Dukhun, it is found in Nepal, and about Calcutta; and M. Temminck says that examples from Japan exactly agree with the specimens taken in Europe. The Shoveler is found in the United States, in North America, and at Hudson's Bay; and interesting accounts will be found in the works of Audubon, Wilson, Nuttall, and Dr. Richardson.

In the adult male the beak is lead colour, dilated on each side towards the tip; the irides yellow; the whole of the head and the upper part of the neck green; lower part of the neck, the inter-scapulars, scapulars, and some of the tertials white; middle of the back dark brown, the feathers having lighter-coloured margins; the point of the wing, the lesser wing-coverts, and outer web of some of the tertials, pale blue; greater wing-coverts white; primaries dark brown, almost black; the secondaries the same, but the speculum green; rump, upper tail-coverts, and tail-feathers, almost black; breast, and all the belly rich chestnut brown; thighs freckled with dark brown, on a ground of lighter pale brown; the vent white; under tail-coverts black; legs, toes, and their membranes, reddish-orange; the nails black.

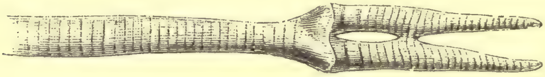
The whole length about twenty inches. From the carpal joint to the end of the wing ten inches; the second quill-feather the longest.

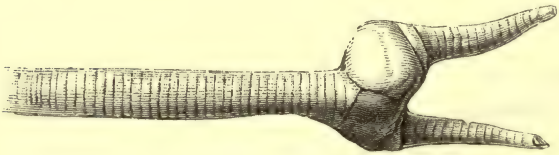
Adult males in summer change the green colour of the head and neck to brown, spotted with very dark brown; back and scapulars dusky; breast and belly ferruginous, spotted with black; legs orange.

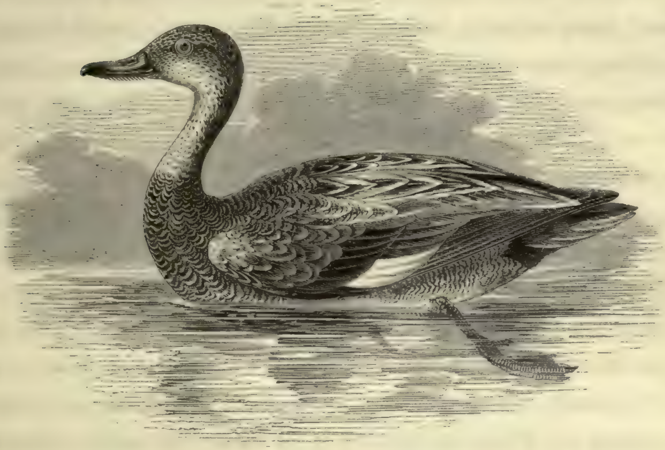
Females have the head and neck mottled with two shades of brown; the feathers on the upper surface of the body darker brown in the centre, with light brown edges and tips; under surface of the body pale brown.

Young males at first resemble females, changing by slow degrees to the true distinctive plumage of the sex, but do not attain it till after the old males have completed their change under the influence of the autumn moult.

Of the windpipes figured below, that with the circular bony enlargement belongs to the male Shoveler, the other to the female.







THE GADWALL.

Anas strepera.

Anas	*strepera,*	*Gadwall Duck,*	Penn. Brit. Zool. vol. ii. p. 275.
„	„	*The Gadwall,*	Montagu, Ornith. Dict.
„	„	„ „	Bewick, Brit. Birds, vol. ii. p. 364.
„	„	„ „	Flem. Brit. An. p. 124.
*Chauliodus**	„	*Common* „	Selby, Brit. Ornith. vol. ii. p. 301.
Anas	„	*The* „	Jenyns, Brit. Vert. p. 231.
„	„	„ „	Gould, Birds of Europe, pt. viii.
„	„	*Canard chipeau,*	Temm. Man. d'Ornith. vol. ii. p. 837.

The Gadwall, or Grey Duck, as the term is intended to imply, is a rare species, occurring sometimes in winter, but more frequently in the spring, rather than at any other season of the year, and then only in very limited numbers. Montagu mentions that during the many years he devoted to observing and collecting British Birds, he was never able to obtain a recent specimen. Examples are, however, occasionally to be met with on our eastern coast, and not uncommonly in the London markets, but some of these latter birds are very probably brought from Holland, where they are known to be rather common, and from whence a considerable quantity of wild-fowl of different sorts is sent to this country for sale throughout the season for working decoys. Sir William Jardine mentions, in a note appended to this species in his edition of Wilson's American Ornithology, that in Holland, in September and October, this is the most common Duck in the markets, and that they were observed to be abundant on the lakes. The eastern parts of Europe seem to be the more favourite localities with this species. M. Vieillot says that it is not uncommon on the coast of France in the month of November, if the weather is rough. In Switzerland, according to Professor Schinz, it is more frequently seen in autumn than in winter. At Genoa and in Italy it is observed rather as a bird of passage, in spring and in autumn. It is observed at Corfu, Sicily, and Malta, in winter. The Zoological Society have received specimens, sent by Sir Thomas Reade, from North Africa. Messrs. Dickson and Ross found this species at Erzerum in March. The Russian naturalists observed it in the countries of the Caucasus. It has been found in the north-western parts of India, and at Calcutta; and Colonel Sykes includes it in his Catalogue of the Birds of the Dukhun, where it is seen in flocks. It is said to be abundant in the vast marshes of the North of Europe, but does not go far to the west of the Baltic, as M. Nilsson says that it is rare in Sweden; and Mr. Dann tells me that he never met with this species in Norway or Lapland. As might be expected, it is rare in the western parts of the British Islands; it has but rarely been killed in Ireland; only occasionally in Cornwall or Devon, but more frequently in Kent, Essex, Suffolk, Cambridge and Norfolk.

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* Genus *Chauliodus* of Swainson, 1831.

Mr. Proctor, subcurator at the University Museum, Durham, who visited Iceland a few summers since, sent me word that the Gadwall is not common there; he only obtained one nest, composed of dry grass and down, and containing five eggs; this was placed near the edge of the fresh-water, in a marsh near Myvat on the north side of Iceland.

This species is described by various writers on the Birds of North America and the United States as being found from the fur countries as low as South Carolina.

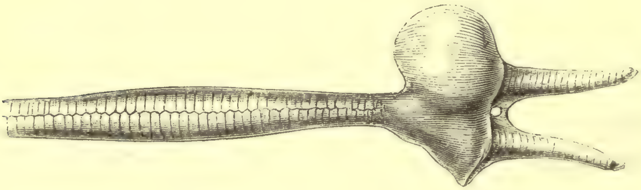
The Gadwall, like the other Ducks of this division with long and pointed wings, has a vigorous and rapid flight, but appears to dislike exposure, and hides itself among thick reeds and aquatic herbage. This is observed to be the habit of a pair in the Gardens of the Zoological Society, which mostly conceal themselves in the long grass on the islands of the ornamental water in which they are confined. These birds bred there in the season of 1839, and again in 1841, laying seven or eight eggs. One egg left unhatched in the nest was of a uniform buffy white colour, tinged with green, and measured two inches two lines in length, by one inch eight lines in breadth. These Ducks feed on vegetable matter, aquatic insects, and small fish.

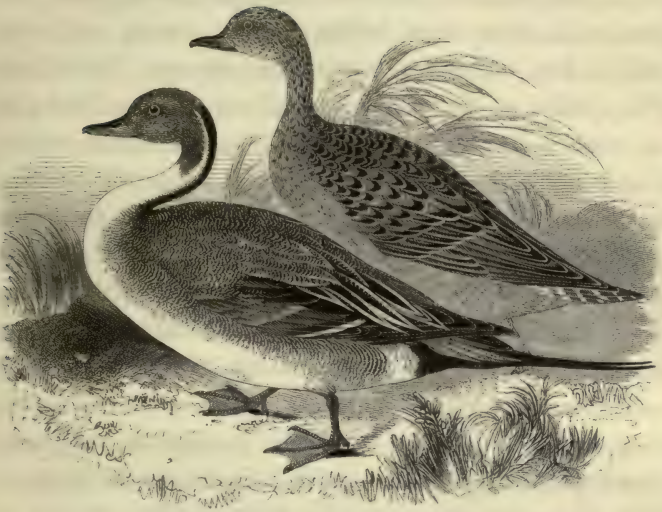
In the adult male the beak is lead colour; irides hazel; the head and upper part of the neck light brown, speckled with darker brown; back grey, produced by an alternation of darker and lighter coloured grey lines; the point of the wing, and the small coverts chestnut, varied with orange-brown; the greater coverts almost black: primaries nearly black; the secondaries similar, but the outer webs forming the speculum white; tertials pointed, and of two shades of brownish grey, the darker colour occupying the centre of each feather, the lighter colour forming the margin: rump and upper tail-coverts bluish-black: tail-feathers dark brown, with lighter coloured edges; lower part of the neck in front, and on the side dark grey, each feather ending in a half circle of lighter grey; breast and belly white; sides, flanks, and vent, covered with two shades of grey in short lines; under tail-coverts bluish-black; legs, toes, and their membranes, orange; claws black.

The female has the head and upper part of the neck spotted with dark brown, on a surface of pale brown; the alternate crescentic bands on the lower part of the neck in front dark brown, and pale brown, but the bands broader than in the male; under surface of the body white; lower part of the neck behind, and the upper surface of the body, brown, the feathers edged with paler brown; wing-coverts brown, with paler margins; speculum like that of the male; tail-feathers of dark brown, with edges and tips of pale buffy brown and white.

The young birds of the year at the Zoological Gardens, compared with the old birds, are of a more uniform reddish-brown colour above, speckled with dark brown; the middle of each feather also dark brown.

The windpipe of the Gadwall is rather small in calibre, with a slight enlargement of the tube about two inches above the bony protuberance as here shown. The voice of this species is loud, and hence it obtained the name of *strepera*.





THE PINTAIL DUCK.

Anas acuta.

Anas	*acuta,*	*Pintail*	*Duck,*	Penn. Brit. Zool. vol. ii. p. 266.
"	"	"	"	Montagu, Ornith. Dict.
"	"	"	"	Bewick, Brit. Birds, vol. ii. p. 372.
"	"	*The*	*Cracker,*	Flem. Brit. An. p. 122.
*Querquedula**	"	*Common*	*Pintail,*	Selby, Brit. Ornith. vol ii. p. 311.
Anas	"	*The*	"	Jenyns, Brit. Vert. p. 232.
Dafila	*caudacuta,*†	*Pintail*	*Duck,*	Gould, Birds of Europe, pt. v.
Anas	*acuta,*	*Canard*	*pilet,*	Temm. Man. d'Ornith. vol. ii. p. 838.

This handsome Duck is a winter visiter to this country, and is one of the first among those species which are taken when the decoys begin to be worked in October. It remains here through the winter till spring, and is obtained by wild-fowl shooters on the coast, as well as by fenmen on the rivers and lakes of the interior; its flight is rapid. It is observed to feed by preference in shallow water, and it selects plants, insects, their larvæ, and mollusca. Sir William Jardine mentions having once shot two, while they were feeding in the evening on a wet stubble field, in company with the common Wild-Duck. This species is one of the best of our various Ducks for the table; the flesh is excellent, and in great esteem. The Pintails, however, do not breed readily in confinement; neither the Zoological Society nor the Ornithological Society have succeeded in this point with the Pintail Duck, though both parties retain several pairs on the canal, ponds, and islands, apparently well adapted to their habits, and where the males constantly undergo that remarkable summer change in their plumage which renders them for a time more like their females in appearance than any other species in which this change is observed. This alteration commences in July, partly effected by some new feathers, and partly by a change in the colour of many of the old feathers. At first one or more brown spots appear in the white surface on the front of the neck; these spots increase in number rapidly, till the whole head, neck, breast, and under surface have become brown; the scapulars, wing-coverts, and tertials, undergo, by degrees, the same change from grey to brown. I have seen a single white spot remaining on the breast as late as the 4th of August; but generally by that time the males can only be distinguished from females of the same species by their larger size, and their beak remaining of a pale blue colour. In the female the bill is dark brown. I have seen a male Pintail, confined in the hutch of a dealer throughout the summer, that did not exhibit any change at all. The following is Montagu's description of a male Pintail, after he had thrown off the masculine plumage, taken on the 19th of August:—"Bill as usual; top of the head, and from thence down the back of the neck, dusky and pale ferruginous, intermixed in minute streaks, paler on the forehead; sides of the head and throat brown, with minute dusky specks tinged with ferruginous; the front and sides of the neck brown, with dusky black spots, which are minute on the upper part, becoming larger by degrees downwards, where they are also more distinct; the breast and belly very pale brown, with more distant dusky spots; the back and scapulars dusky black, with pale margins, each feather having a transverse bar of white near the tip; the longer scapulars are only margined with rufous white, and some are powdered with white; the rump, like the back, but these feathers gradually lose the white bar as they approach the tail, so that the tail-coverts are only margined with white; the feathers on the sides of the body being large, have broad margins, with the middle dusky black, in which is either a ferruginous white bar, or two spots, one on each side of the shaft; the prime quills dusky grey as usual; the speculum changeable green, or copper, tipped with white, a violet bar dividing the green from the white; the first tertial is brown on the inner web, grey on the outer near the shaft, and a broad margin of violet; the rest of the tertials are brown, dashed with cinereous black near the shafts; the coverts of the wings plain dark cinereous, the largest series tipped with bay; the tail consists of sixteen dusky feathers, dashed with cinereous, gradually becoming darker towards the middle feathers, which rather exceed the next in length, making the tail regularly cuneiform: vent, and under tail-coverts rufous white, with distant black spots."

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* *Querquedula,* Selby, 1833. † *Dafila,* Leach and Stephens, 1824.

At the annual autumn moult the males again assume with their new feathers the colours peculiar to their sex, but the assumption is gradual. White spots first appear among the brown feathers on the front of the neck; by the end of the second week in October the front of the neck and breast is mottled with brown and white; at the end of the third week in October a few brown spots only remain on the white.

These birds form their nests in rushes and strong herbage, producing seven or eight eggs, which are greenish white in colour, and rather elongated in form, measuring two inches one line in length, by one inch five lines in breadth. Montagu mentions "that the notes of the Pintail are extremely soft and inward; the courting note is always attended with a jerk of the head; the other greatly resembles that of a very young kitten. In the spring the male Pintail indicates his feelings by suddenly raising his body upright in the water, and bringing his bill close to his breast, uttering at the same time a soft note. This gesticulation is frequently followed by a singular jerk of the hinder part of the body, which in turn is thrown up above the water." Montagu mentions also that Pintails have bred in confinement; and Lord Stanley informed him he had a hybrid brood produced two seasons following between a female Pintail and a male Wigeon; the hybrid birds laid eggs during two successive seasons, but they were unproductive. In December 1831, the Honourable Twiselton Fiennes exhibited at the Zoological Society a specimen of a hybrid Duck, bred between a male Pintail and a common Duck. It was one of a brood of six, several of which were subsequently confined with the male Pintail from which they sprung, and produced young. A specimen of a female of this second brood was also exhibited, and these three part-bred Pintails having bred again with the true Pintail, have now lost all the appearance of the common Duck.

The Pintail has been killed occasionally in different parts of Ireland in winter. It is rare in Wales, Cornwall, and Devon; more common on the coast of Dorsetshire and Hampshire, particularly from Poole Harbour to Lymington, where it is called the Sea Pheasant, on account of the length of its tail, and where it is seen in small flocks during winter. It occurs also occasionally in the marine and fenny districts, of the eastern counties. The figure of the male on the fore-ground in the illustration of the species here given, was taken from a fine specimen, killed in Cambridgeshire, now in the collection of Dr. Thackeray, the Provost of King's College.

The Pintail is rather rare in the extreme north of England, and in Scotland. Mr. Robert Dunn, in his useful little book, says, I never met with this bird in Shetland, but it is tolerably plentiful in Orkney, particularly in the island of Sanda. It frequents the inland lakes more than the sea-shore, and leaves these islands early in the spring. Richard Dann, Esq. tells me that the Pintail Duck is common in Lapland, and at the head of the Bothnian Gulf during the summer months. It breeds late; "I saw on the 1st of July, 1838, a large flock, both males and females, in a lake near Lulea, which had evidently not yet dispersed for breeding. In the Dofre Fiell mountains they are tolerably numerous in May, but pass on to the north. They do not appear, however, in the autumn on their return from thence, and from their appearing on the western coast in autumn but rarely, I am induced to think their migration is southerly in autumn, and as winter advances westerly. They are by no means shy or difficult of access. The young are five or six in number."

This species is said to be common in Russia, Germany, Holland, and France. In Spain it occurs at Lake Gallocanta, in Arragon, where it is called *collilargo.* It is seen at Genoa twice annually on its passage; and in Italy Savi says it appears at the beginning of winter and remains till spring. It is observed at Corfu, in Sicily, and at Malta in winter. Mr. Strickland saw this species at Smyrna in winter. Messrs. Dickson and Ross sent the Zoological Society specimens from Erzerum, that were killed there at the end of March; and the Russian naturalist found this Duck in the vicinity of the Caspian Sea. It is found in India, China, and Japan.

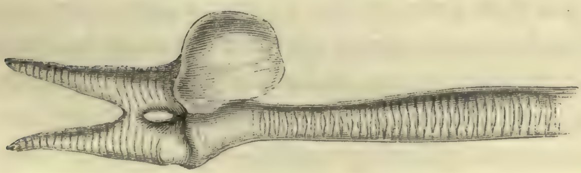
The Pintail is included in the Catalogue of the birds of the Faro Islands; and Mr. Proctor says that a few breed in Iceland, laying from six to ten eggs, in a nest placed among reeds and thick herbage; it is also found in North America, the United States, and Newfoundland. The British Museum contains a specimen from Jamaica.

The appearance of the adult male in July, August, and September, has been already noticed. In winter the bill is lead grey on the sides, part of the central ridge and the base brownish-black; irides dark brown; head, cheeks, chin, sides, and upper half of the neck in front rich dark brown; nape and back of the neck the same, the occipital portion tinged with purple; back, scapulars, the part before the wings, and the smaller coverts, rich grey, produced by fine undulating alternate lines of greyish-white and bluish-black; primaries greyish brown: secondaries black, the end of the outer web of each forming a speculum of dark green: greater wing-coverts ash-brown, tipped with reddish-buff and white; tertials elongated, black in the centre, with a white lateral margin on the outer web, and a grey one on the inner; tail-coverts ash-grey; the elongated tail-feathers black; the others dark brown, margined with white; from the occipital portion of the neck on each side descends a white stripe, which becoming broader as it passes downwards, extends in front over the whole of the lower portion of the neck, breast, belly, and part of the flanks; the sides grey; vent and under tail-coverts velvet black; legs, toes, and their membranes, blackish brown.

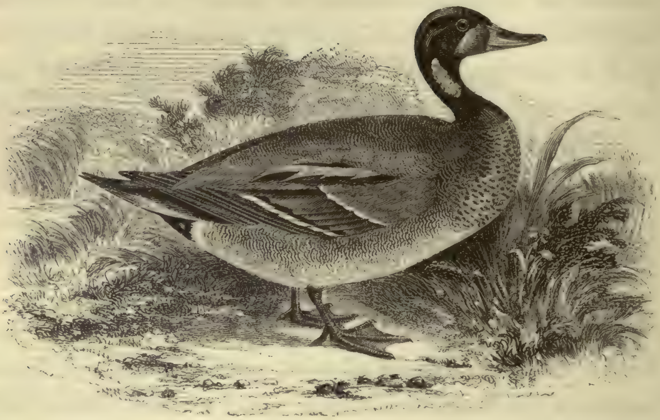
The whole length of the male, somewhat influenced by the tail-feathers, is from twenty-six to twenty-eight inches. From the carpal joint to the end of the wing ten inches and a half; the first quill-feather the longest in the wing.

The female has the head reddish-brown; the neck pale brown, both parts speckled with very dark brown; upper surface of the body dark brown; each feather almost black in the centre, and pale brown on the margin; tail-feathers also dark brown, varied with pale brown; no appearance of white lines on the sides of the neck; under surface of the body nearly uniform pale brown.

The length of the windpipe in this species is about nine inches and a half, the diameter of the tube slightly enlarged about an inch above the bony labyrinth, the form of which is figured below.



NATATORES. *ANATIDÆ.*



THE BIMACULATED DUCK.

Anas glocitans.

Anas	*glocitans,*	*Bimaculated Duck,*	Penn. Brit. Zool. vol. ii. p. 272.
"	"	" "	Bewick, Brit. Birds, vol. ii. p. 378.
"	"	" "	Flem. Brit. An. p. 125.
Querquedula	"	" *Teal,*	Selby, Brit. Ornith. vol. ii. p. 321.
Anas	"	" *Duck,*	Jenyns, Brit. Vert. p. 232.
"	"	" *Teal,*	Gould, Birds of Europe, pt. xvii.
"	"	*Canarde glousseur,*	Temm. Man. d'Ornith. pt. iv. p. 533.

The British historical notice of this prettily marked duck was thus given by Mr. Vigors, in November 1824.* "The male of this species was first described by Pennant in his British Zoology, under the name of Bimaculated Duck, and introduced as an inhabitant of the British Islands, in the following words:—'Taken in a decoy in 1771, and communicated to me by Edward Poore, Esq.' The same bird was afterwards described and figured by Dr. Pallas, in the *Acta Stockholmiensia* for 1779, as a native of Siberia, frequenting Lake Baikal and the river Lena; and was named by him *Anas glocitans*.* On the authority of Mr. Pennant the species has subsequently been included among the birds of Great Britain, by writers on British Ornithology; but no further account has reached us of the specimen alluded to by that distinguished naturalist, nor has it been ascertained whether it was preserved after it was communicated to him. The specimen of both male and female, from which I have taken the description, were sent up from a decoy near Maldon in Essex, to Leadenhall market, in the winter of 1812-13. Here they were observed by a respectable naturalist, Mr. George Weighton, of Fountain Place, City-road, who immediately purchased them and set them up. From his collection they have subsequently passed into mine. There can be little doubt of the two birds being sexes of the same species. They agree in all the essential particulars that serve to identify the species of this family; their bill, legs, and feet, exactly according in structure, and the colouring and markings of the *speculum* on the wings, a distinguishing character among the *Anatidæ*, being precisely the same. We have moreover, in favour of this conclusion, the negative evidence that the other sex of neither of these birds has until now been ascertained; and we have the positive evidence that both these specimens were taken in the same decoy and at the same time."

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* Linnæan Transactions, vol. xiv. p. 560.

Such was the account of this species, furnished by one of our most distinguished naturalists at that time, and but little has been learned since. Of its habits or its nidification, nothing, that I am aware of, is known. Mr. Proctor sent me word that he saw this species at Iceland, but could not obtain it. M. Temminck, including a notice of it in the fourth part of his Manual, has furnished some particulars of its plumage, which will be given here after the description of the adult male. I looked in vain for any account of this rare species in the Natural History Catalogues of the Russian Expeditions towards the Caucasus.

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* There is, however, reason to believe that the *glocitans* of English authors is the *formosa* of Pallas.

Since the publication of the first edition of this work, Mr. Bartlett has obtained a specimen of a male in the London market, and there is one in the Chinese exhibition, indicating that it is a bird of that country.

The following is Mr. Selby's description of the adult male, taken from the specimen. "Bill blackish-grey, passing towards the base and edges into orange-yellow. Front, crown, and occiput, very deep reddish-brown, glossed with purplish-black, and passing upon the hind part of the neck into deep violet-purple. Between the bill and eyes, and behind the ear-coverts, are two large irregular patches of chestnut-brown, margined and varied with white. Sides of the neck and cheeks glossy duck-green, the rest of the upper part of the neck, and sides of the breast, reddish-brown, with oval black spots. The middle part of the breast pale reddish-brown, also spotted with black. Ground colour of the mantle pale sienna-yellow, undulated with black lines. Scapulars the same, tipped with glossy Scotch-blue. Wing-coverts hair-brown, the lower range having pale wood-brown tips. Speculum dark green, glossed with purple. Upper and under tail-coverts greenish-black, glossed with purple. Tail wedge-shaped, with the two middle feathers black, narrow, acuminate, and much longer than the rest, which are hair-brown, margined with white. Belly and abdomen yellowish-white, with undulating black lines, most distinct upon the flanks. Legs and feet pale orange."

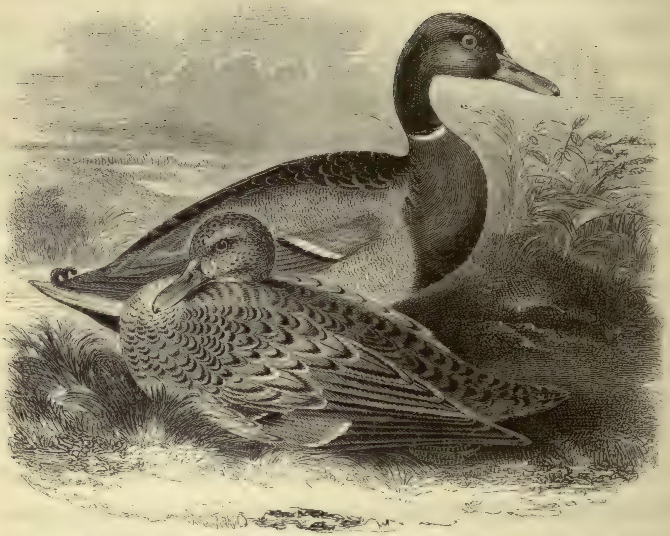
The whole length fifteen inches and three-quarters. From the carpal joint to the end of the wing eight inches and four-tenths.

M. Temminck says that " the males of this species appear to vary very much in the degree of purity of the tints of their plumage, and in the colour and form of the two large spots on the neck. He has seen one male bird covered in part only with the variegated plumage of that sex, while all the rest was like that of the female, but dotted here and there with some feathers of the male. The top of the head alone exhibited some red colour at the tip of the feathers, and the rest black ; the metallic green also being clouded with black, at the end of white feathers. Probably, adds the author, a young male, or perhaps a male in the moult."

The female, according to Mr. Selby, has " the chin and throat pale buff. Head and neck the same, but with spots and streaks of black, those upon the crown of the head being larger and more distinct. Lower part of the neck, and sides of the breast, pale yellowish-brown, with blackish-brown spots. Flanks variegated with yellowish-brown, and blackish-brown. Upper parts blackish-brown, the feathers being deeply margined with reddish-white, and pale yellowish-brown. Lesser wing-coverts hair-brown, with the lower tier deeply tipped with pale reddish-brown. The upper half of the speculum green, with purple reflections; the lower half velvet black, with white tips to the feathers. Quills and tail hair-brown, the latter margined with white and reddish-white. Legs orange.

This species has been confounded by some authors with the Japan Teal, but though marked something like it on the head and neck, it is a much larger bird.

NATATORES. *ANATIDÆ.*



THE WILD DUCK.

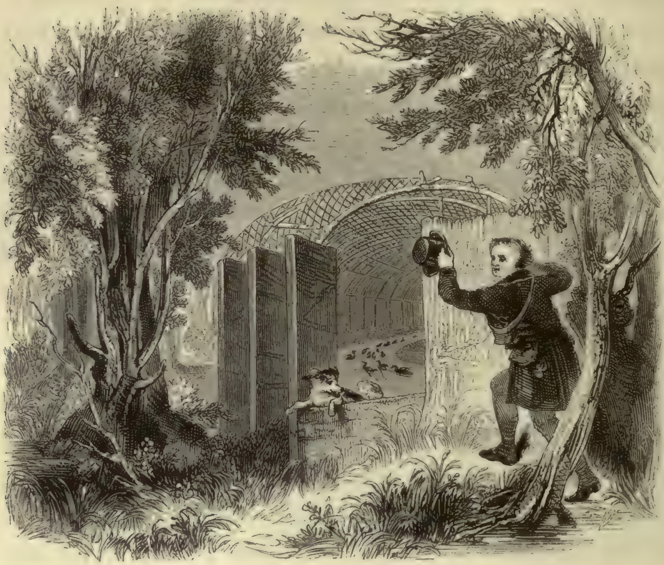
Anas boschas.

Anas boschas,	*The Mallard,*	Penn. Brit. Zool. vol. ii. p. 258.
„ „	*Wild Duck,*	Montagu, Ornith. Dict.
„ „	„ „	Bewick, Brit. Birds, vol. ii. p. 342.
„ „	*Common* „	Flem. Brit. An. p. 123.
„ „	„ *Wild* „	Selby, Brit. Ornith. vol. ii. p. 305.
„ „	*The Mallard,*	Jenyns, Brit. Vert. p. 233.
„ „	*Common Wild Duck,*	Gould, Birds of Europe, pt. xvi.
„ „	*Canard sauvage,*	Temm. Man. d'Ornith. vol. ii. p. 835.

From the evidence of Pennant and others it appears certain that the Wild Duck was formerly much more numerous in the British Islands than it is at present. To the progress of draining, and the consequent extension of agriculture this change may be greatly attributed, and though a few pairs of this handsome and valuable species may still remain here to breed during summer on the margins of rivers and lakes in many counties, these bear but a very small proportion to the numbers which annually visit this country from high northern latitudes during winter. Particular spots, or decoys, in the fen countries, are let to the fowlers at a rent of from five pounds to thirty pounds per annum; and Pennant instances a season in which thirty-one thousand two hundred Ducks, including Teals and Wigeons, were sold in London only, from ten of these decoys near Wainfleet, in Lincolnshire.

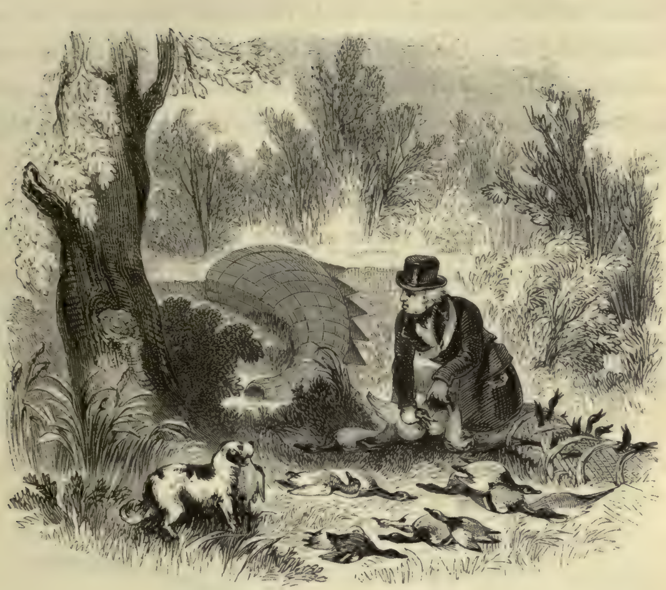
Two illustrations, reduced in size, from designs which appeared in the Penny Magazine, of February 1835, which exhibit the screens, the net, and the mode of proceeding, will enable the reader, with a short description, to understand the process.

The wild birds are enticed from that portion of the lake near the wide open mouth of the tunnel by means of the dog, the decoy ducks, and the corn used in feeding them in, till the decoyman has worked them sufficiently up the pipe to enable him to show himself at one of the openings between the wild birds and the entrance from the lake, the oblique position of the reed screens enabling all the birds in the pipe to see him, while none that are on the lake can. The wild-fowl that are in sight hasten forward, their retreat being cut off by the appearance of the man whom they dare not pass. The decoyman then moves on to the next opening, waiving his hat if necessary, and the wild birds are thus driven along till they enter the tunnel net and are all taken, a twist of the net prevents them getting back. The decoyman then takes the net off from the end of the pipe with what fowl he may have caught, takes them out one at a time, dislocates their necks, hangs the tunnel on to the net again, and all is ready for working afresh.



I am indebted to the Rev. Richard Lubbock for the following account of the mode of making a decoy, supplied him by a friend in Norfolk.

In making a decoy it is necessary to have from an acre and a half to three or four acres of water, in a quiet place surrounded by plantation; the water should be in the form of a star, making six equal divisions of the compass; in these six recesses must be made six pipes: they are constructed by digging cuts in the land something in the form of a semi-circle covered over with bows, and a net gradually tapering to the end, at which must be placed a tunnel net, to be taken off when the fowl are driven into it. On each side of the pipe are screens made of reed to shelter the person working the decoy; the outer side of the circle of the pipe is the one on which the person walks who is decoying the fowl, and in the screens on that side



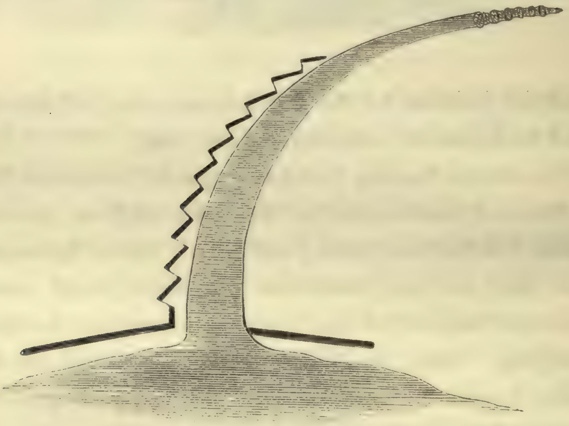
must be divisions for the dog to pass over, and also for the man to appear at when driving the fowl.

The water forming the decoy should be surrounded with a fence of reeds three or four feet high to prevent the decoy Ducks from getting out of it. About Midsummer is the time to put them into the water, and commence training them, which is a very important part in the art of decoying; they should be young birds and made very tame, taught to come to any pipe from all parts of the water whenever they are whistled, and to prevent them flying they should be pinioned.

In working a decoy it is best to go to that pipe at which the wind blows from the tunnel net to the bend of the pipe; by doing so all scent of the person at work is carried away from the fowl in the pipe, and as all wildfowl by choice rise head to wind, there are generally more taken with the wind in that direction than any other. During the time the weather is open they are taken almost entirely by means of the dog, but as soon as the frost sets in they are taken by feeding them in the pipe, and keeping a piece of water constantly open near it.

The reason in favour of a small piece of water for a decoy, not exceeding three or four acres at the most, is, that when thus confined in extent you can almost always *work fowl*, but if a large lake is made a decoy, there may be thousands of Ducks on the water, but none near enough to a pipe to regard the dog* or the decoy Ducks.

Bewick, in his excellent ornithological work, has given a plan of one pipe of a decoy, with zigzag markings showing the situation and position of the screens formed of reeds, by which the fowler and his trained dog are hid from the sight of the wild birds, an outline only of which is here introduced.



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* The well-trained dog moves the birds from the banks when they are sluggish, and is otherwise useful when they are within the mouth of the pipe.

The Duck and Mallard begin to congregate in the decoy soon after Midsummer, but these are the fowl that are bred in the neighbourhood. About the first week in September the Teal begin to come, and about the beginning of October, if easterly winds prevail, there is generally a flight of fowl from foreign countries, composed of Ducks, Wigeon, Dunbirds, Teal, with a few of the Shoveler and Pintail Ducks; but the principal flight of foreign fowl does not arrive till the weather becomes severe; at that time all sorts arrive, with the exception of the Garganey, which we do not see before the spring of the year, and then only for a short time previously to the different descriptions of wild-fowl migrating to other countries.*

The Wild Duck is an early breeder; and Mr. Waterton in his published essay on this species, considers that the old birds remain pairs through the entire year; and that the young ones, which have been hatched in the preceding spring, choose their mates long before they depart for the Arctic regions in the following year. With his usual felicity of expression this gentleman observes, "I have a favourite hollow oak tree on a steep hill, into which I can retire to watch the movement of the pretty visiters. From this I can often see a male and female on the water beneath me, nodding and bowing to each other with as much ceremony as though they were swimming a minuet, if I may use the term. Hence I conclude that there is mutual love in the exhibition, and that a union is formed."

The nest is composed of grass, intermixed and lined with down, and is placed on the ground, sometimes near the margin of rivers or lakes, at other times a considerable distance from water. I have known the nest of the Wild Duck to be found in a field of young wheat, sometimes in a thick hedge row, or in a wood. Occasionally the Duck will make her nest at a considerable elevation from the ground. One mentioned by Mr. Tunstall, at Etchingham, in Sussex, was found sitting upon nine eggs, on an oak twenty-five feet from the ground. The author of the Rural Sports records an instance of a Duck taking possession of the deserted nest of a Hawk in a large oak; and Montagu makes mention of one that deposited her eggs in the principal fork of a large elm tree, and brought her young down in safety. Mr. Selby records an instance, within his own knowledge, and near his own residence, "where a Wild Duck laid her eggs in the old nest of a crow, at least thirty feet from the ground. At this elevation she hatched her young; and as none of them were found dead beneath the tree, it was presumed she carried them safely to the ground in her bill, a mode of conveyance known to be frequently adopted by the Eider Duck." I have a note of a nest with fifteen eggs, upon which the female was sitting hard, just ready to hatch, on the 3rd of May. The eggs are of a greenish-white colour, smooth on the surface, two inches three lines and a half long, by one inch seven lines in breadth. The young Ducks are two months or ten weeks before they can fly, and formerly advantage was taken of this inability, to have, in the fens, an annual driving of the young Ducks before they took wing. Numbers of people assembled, who beat a vast tract, and forced the birds into a net placed at the spot where the sport was to terminate. A hundred and fifty dozens have been taken at once: but this practice being supposed to be detrimental, has been abolished by Act of Parliament.—*Pennant.*

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* The best description of the mode of forming a decoy, and the manner of working it, that I am acquainted with, is in the Rev. Richard Lubbock's "Observations on the Fauna of Norfolk, and more particularly of the district of the Broads." 1845.

These birds feed on grain, or seeds, worms, slugs, insects, and small fish. As soon as the females begin to sit the males leave them, and soon after undergo that remarkable change in the colour of their plumage, which has already been referred to in the males of several species, belonging to this division of this extensive family.

The change in the Mallard is thus characteristically described by Mr. Waterton from personal observation.

"At the close of the breeding season the Drake undergoes a very remarkable change of plumage; on viewing it, all speculation on the part of the ornithologist is utterly confounded; for there is not the smallest clue afforded him, by which he may be enabled to trace out the cause of this strange phenomenon. To Him alone, who has ordered the Ostrich to remain on the earth, and allowed the Bat to range through the ethereal vault of heaven, is known why the Drake, for a very short period of the year, should be so completely clothed in the raiment of the female, that it requires a keen and penetrating eye to distinguish one from the other. About the 24th of May, the breast and back of the Drake exhibit the first appearance of a change of colour. In a few days after this, the curled feathers above the tail drop out, and grey feathers begin to appear amongst the lovely green plumage which surrounds the eyes. Every succeeding day now brings marks of rapid change. By the 23rd of June scarcely one single green feather is to be seen on the head and neck of the bird. By the 6th of July every feather of the former brilliant plumage has disappeared, and the male has received a garb like that of the female, though of a somewhat darker tint. In the early part of August this new plumage begins to drop off gradually, and by the 10th of October the Drake will appear again in all his rich magnificence of dress;

than which scarcely anything throughout the whole wild field of nature can be seen more lovely, or better arranged to charm the eye of man. This description of the change of plumage in the Mallard has been penned down with great care. I enclosed two male birds in a coop, from the middle of May, to the middle of October, and saw them every day during the whole of their captivity. Perhaps the moulting in other individuals may vary a trifle with regard to time. Thus we may say that once every year, for a very short period, the Drake goes, as it were, into an eclipse, so that, from the early part of the month of July, to about the first week in August, neither in the poultry yards of civilized man, nor through the vast expanse of Nature's wildest range, can there be found a Drake in that plumage which, at all other seasons of the year, is so remarkably splendid and diversified."

The Wild Duck may be called resident in Ireland, from its breeding there, and some being to be met with at all seasons. The same may be said of it in England and in Scotland. Richard Dann, Esq. in his notes to me on this species, says, " the Wild Duck is common over the whole of Norway and Sweden, but is found only as a straggler, or in very small numbers, within the Arctic Circle. I have seen them at Quickiock, and at Juckasiervi, but there they are rare. Their great breeding places are the numerous shallow reedy lakes at the head of the Bothnian Gulf; they seem naturally to prefer the vicinity of cultivated districts and feed much on corn in August and September. They are also found in the mountainous parts of Norway, and breed as high as the birch tree goes. The young and females migrate south first, the old males remaining until they have recovered their full plumage, and at the end of September are sometimes to be seen in flocks of three or four hundred together. They remain in considerable numbers among the islands on the western coast of Sweden till the sea freezes." The Wild Duck is common also over the other parts of the Continent of Europe; is found eastward as far as Japan; westward over North America and the United States, and was obtained by Captain Beechey during a voyage to the Pacific and Behring's Straits; it is probably indigenous to the greater part of the northern hemisphere.

The Wild Duck is the undoubted origin of many of the varieties of our domestic ducks; but in these one curious difference of habit is observable: the Wild Duck is strictly monogamous; our most common Domestic Ducks, on the contrary, are polygamous; they are also very prolific, one Duck has been known to produce one hundred and eighty eggs in one season. The Common Duck has bred with the Egyptian Goose, the Shelldrake, the Muscovy Duck and the Pintail Duck.

In the adult male the bill is yellowish-green; the irides hazel; all the head and the upper half of the neck rich glossy green; below that a narrow ring of white; the neck behind and the back greyish chestnut brown, becoming dark on the lower part of the back, and bluish black on the rump and upper tail-coverts; the four middle tail-feathers velvet black, and curled upwards; the rest lancet-shaped, ash-grey in the middle, margined with white, the most outer feathers having the broader margins; scapulars a mixture of brown and grey; the small wing-coverts ash-brown; the greater coverts with a bar of white near the end, and tipped with velvet black; primaries ash-brown; the secondaries the same on the inner web, the outer portion towards the end of the outer web rich shining purple, forming a speculum, but bounded by a bar of velvet black, and tipped with white; tertials pale chestnut-brown, the outer webs darkest in colour; front and sides of the neck below the white ring rich dark chestnut, each feather at the commencement of winter edged with white; breast, belly, vent, and flanks, greyish-white, the sides before and under the wings marked with delicate grey-lines; under tail-coverts velvet black; legs, toes, and their membranes orange yellow. The whole length twenty-four inches. From the carpal joint to the end of the wing eleven inches and a half; the second quill-feather the longest in the wing.

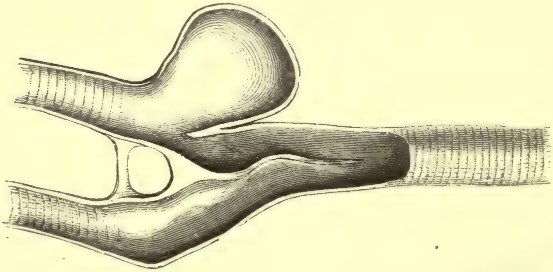
The female has the beak greenish-black, towards the end light yellow-brown, the nail black; irides brown; cheeks, head, and neck, pale brown, each feather streaked with black in the middle; the scapulars, and the whole of the back of the same two colours, but prettily varied, some of the feathers black in the middle and on the margin, with a light brown band between the two dark colours; tail-feathers the same; small wing-coverts ash-brown; the large coverts white towards the end and tipped with velvet black; primaries uniform dark brown; the secondaries the same on the inner web, outer webs forming a purple speculum, ending in a band of black, and tipped with white; tertiaries dark brown; chin and throat pale brown; lower part of the neck richer reddish-brown, varied with dark brown; breast, belly, vent, and under tail-coverts pale brown, slightly varied with darker brown, which occupies a portion of the centre of each feather; legs and toes orange, the interdigital membranes darker.

The females are smaller than males, and measure but twenty-two inches in length; the wing ten inches and a quarter; the first and second quill-feathers very nearly equal.

I have seen two instances in which females of this species have assumed to a considerable extent the appearance of the plumage of the Mallard, even to the curled feathers of the tail. One of these birds, in my own collection, was given me when alive by my kind and liberal friend John Morgan, Esq. In this female the beak was yellowish-brown; the head and upper part of the neck a mixture of green and brown; the white ring below perfect; the lower part of the neck and the breast chestnut-brown; the upper surface of the body a mixture of ash-brown and dark brown; the under surface dull white. When this bird was examined after death the sexual organs were found to be diseased, as in the cases of the Hen Pheasant, mentioned in the second volume, page 319. In the recently published Illustrations to his Fauna of Scandinavia, M. Nilsson has given a coloured figure of a Duck in this state of plumage, plate 163, which is called a barren female, and in which the curled tail-feathers are made very conspicuous. From the general similarity in these females to the appearance assumed for a time by healthy males in July, I am disposed to refer this seasonal change in males to a temporary exhausted state of the male generative organs and their consequent diminished constitutional influence on the plumage.

The windpipe of the Mallard is about ten inches long, the diameter of the tube is of equal size throughout; the bony labyrinth is large, the vignette indicates the form by its outline, but represents a section of the lower part of the tube of the trachea, the bony cavity, and the bronchial tubes, as seen from behind, the enlargement in this, as in most of the other species, being on the left side. The object here intended is to show the course of the air from each lobe of the lungs to the single portion of the tube of the windpipe. The column of air on the right side in the bird, and in the representation, goes direct from the right lobe of the lungs to the tracheal tube ; but the column of air on the left side, on passing through the bronchial tube, is opposed by the descending edge, and being divided by it, a portion is sent in circles round the inner surface of the cavity before it becomes united with the air from the other lobe in the tube common to both. A compound tone of voice is thus produced by which wild-fowl shooters can distinguish males from females, of the same species, in the darkest night, whenever the birds utter their note, and this they frequently do, apparently for the purpose of keeping together. Gilbert White of Selborne, with his usual discrimination, says, in his forty-third letter to Daines Barrington, which is devoted to the consideration of the notes and language of birds, "among Ducks the sexual distinction of voice is remarkable ; for, while the quack of the female is loud and sonorous, the voice of the Drake is inward, and harsh, and feeble, and scarce discernible."

The resemblance to the reed or other mouth-piece, and the edge opposed to its inner orifice, to produce vibration, in some musical wind instruments, will be obvious.



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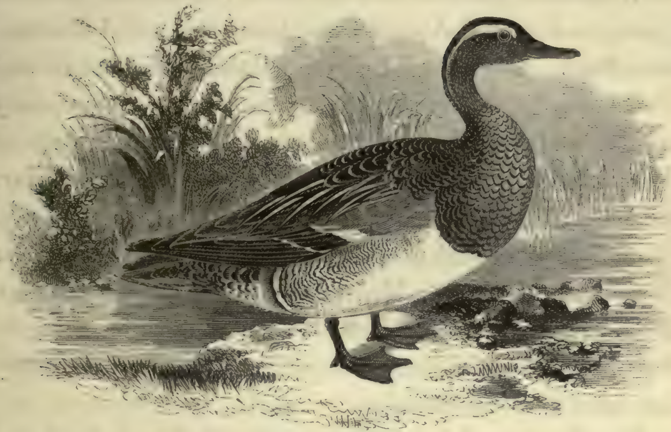


THE GARGANEY,

OR SUMMER TEAL.

Anas querquedula.

Anas querquedula,	*Garganey Duck,*	Penn. Brit. Zool. vol. ii. p. 277.
,, ,,	*The Garganey,*	Montagu, Ornith. Dict.
,, ,,	,, ,,	Bewick, Brit. Birds, vol. ii. p. 390.
,, ,,	,, ,,	Flem. Brit. An. p. 125.
Querquedula circia,	*Garganey Teal,*	Selby, Brit. Ornith. vol. ii. p. 318.
Anas querquedula,	*The Garganey,*	Jenyns, Brit. Vert. p. 234.
,, ,,	*Garganey Teal,*	Gould, Birds of Europe, pt. xiii.
,, ,,	*Sarcelle d'été,*	Temm. Man. d'Ornith. vol. ii. p. 844.

Intermediate in size between the Teal and the Wigeon, the birds next in succession to be described, the Garganey, is rather a rare species, and though I have seen specimens in October, it more frequently makes its appearance in the spring, and then only in comparative small numbers. These birds are then on their way to the south, as various references to authorities in the south of Europe, to be hereafter referred to, will determine. A few pairs remain occasionally in the eastern part of Norfolk to breed, as the Rev. Richard Lubbock sent me word that he had shot the young in July and August; and hence it is called the summer Teal. The authors of the Catalogue of Norfolk and Suffolk Birds, say also, it seems probable that the Garganey sometimes breeds in Norfolk, as the Rev. Henry Tilney, of Hockwold, had a pair brought to him on the 6th of May, in the female of which was a perfect egg. And Mr. Youell has received a specimen of this Duck killed near Yarmouth in June. Mr. Salmon, an accurate observer, says he has never succeeded in obtaining a nest of the Garganey on the western side of Norfolk. The Garganey has bred with the Shoveler.

The Garganey has been but rarely killed in Ireland, and then on the east coast. It is rare in Wales, Cornwall, and Devon. It is rare also in Kent and Essex; has been quoted as occurring in Norfolk, and is occasionally sent up to the London market from the decoys of Lincolnshire. Mr. Dunn, of Hull, sent me word that he received two in October 1840. Mr. Selby says no instance of its capture further north in England has come to his knowledge. Dr. Edward Clarke sent me notice from Edinburgh that six specimens were shot in Stirlingshire during the last fortnight of March 1841; of these Dr. E. Clarke obtained two examples for his own collection, and speaks in terms of the highest praise of the delicate qualities of these birds as food. The Garganey is not included among the Birds of Orkney or Shetland, either by Dr. Patrick Neill or Mr. Dunn. Professor Nilsson says it is found in Sweden in Summer; and it is said to inhabit Russia and Siberia. M. Temminck says it is abundant in Holland, Germany, and in some parts of the interior. M. Vieillot says it is found in

France in summer, arriving in March, and breeds there in April, laying from ten to fourteen eggs, in a nest formed of dry grass and placed in a bunch of reeds. The egg is of a buff colour, and measures one inch nine lines in length by one inch and three lines in breadth. The food of this species consists of seeds, slugs, insects and their larvæ.

The Garganey is found in Spain about Aragon; arrives at Genoa in flocks, from February to April. Savi says it visits Italy in March, and remains the summer; and the Prince of Canino says that at Rome it is common in summer. It is found at Corfu, in Crete, and in Sicily all the year: at Malta, only when on its passage in spring. Sir Thomas Reade sent the Zoological Society specimens of the Garganey obtained in the vicinity of Tunis; and it will be recollected that this bird has, by some authors, been called the African Teal. Keith Abbot, Esq. sent specimens from Trebizond; the Russian naturalists found it inhabiting the countries of the Caucasus; Mr. Gould mentions that it has been found on the Himalayan range; Colonel Sykes includes it among his Birds of the Dukhun, and Mr. Blyth has obtained it at Calcutta.

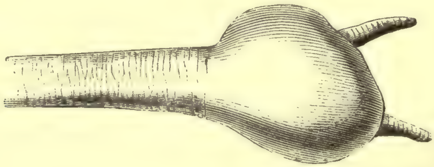
The adult male, as observed here in March, has the bill brown; the irides hazel; the forehead, top of the head, and occiput, dark brown, forming a stripe which ends in a point half way down the neck behind; over the eye and ear-coverts, on each side, and passing to the back of the neck under the dark brown stripe, is a stripe of white; cheeks, and sides of the neck nutmeg brown, varied with short hair-like lines of white; the back dark brown, each feather edged with lighter brown; scapulars elongated, black, with a central stripe of white; wing-coverts bluish-grey; speculum dull green, margined with white; primaries brownish-black; tertials bluish-grey; tail greyish-brown; chin black; neck in front, and the whole of the breast dark brown, with pale brown crescentic bands; belly white; sides and flanks varied with transverse black lines, bounded by two broad bands; under tail-coverts mottled black and white; legs, toes, and their membranes greyish-brown.

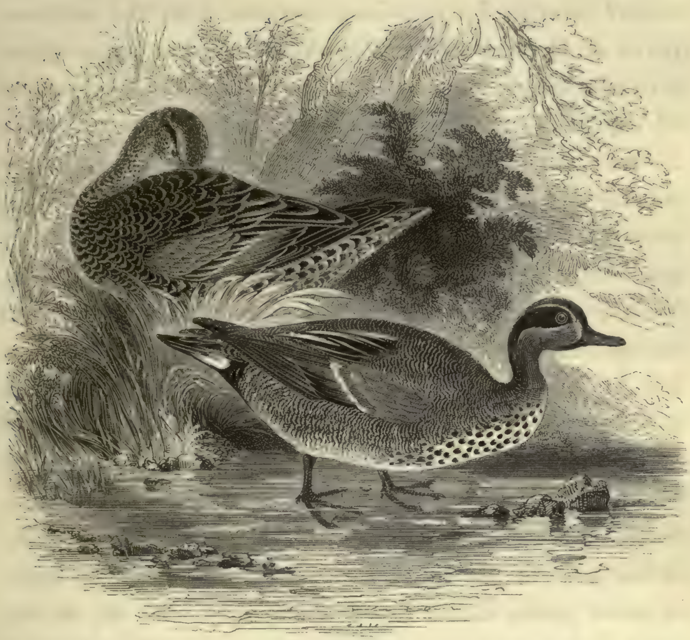
The whole length sixteen inches. From the carpal joint to the end of the wing seven inches and three-quarters; the first quill-feather the longest.

Females are smaller than males, and have the whole of the head brown, with darker spots and lines; over the eye an indication of a light band of pale brown; back, scapulars, and tertials dark brown, with ferruginous edges and white tips; wing-coverts brown; speculum dull green, between two bars of white; chin white; breast varied with two shades of brown, on a surface of greyish-white; sides and flanks pale brown, varied with darker brown.

Young males, as usual, resemble females in their first plumage, attaining their sexual distinctions after their first moult.

The windpipe of the Garganey is about seven inches in length; the form of the bony enlargement nearly oval, and placed so as to appear like a continuation of the tracheal tube; the enlargement is in the front, and the bronchial tubes come off from the flattened inner surface which lies upon the œsophagus. The voice, as noticed by Mr. Selby, is said to be a low hoarse croak.





THE TEAL.

Anas crecca.

Anas	*crecca,*	*The*	*Teal,*	Penn. Brit. Zool. vol. ii. p. 279.
"	"	"	"	Montagu, Ornith. Dict.
"	"	"	"	Bewick, Brit. Birds, vol. ii. p. 392.
"	"	"	"	Flem. Brit. An. p. 125.
Querquedula	"	*Common*	"	Selby, Brit. Ornith. vol. ii. p. 315.
Anas	"	*The*	"	Jenyns, Brit. Vert. p. 235.
Querquedula	"	*Common*	"	Gould, Birds of Europe, pt. ix.
Anas	"	*Sarcelle d'hiver,*		Temm. Man. d'Ornith. vol. ii. p. 846.

This very prettily marked species, the smallest of our Ducks, but one of the best as an article of food, is an early and constant winter visiter, making its appearance by the end of September, sometimes sooner than that, and remaining with us till spring has made considerable progress; their numbers constantly recruited through the winter months by additional arrivals from the northern parts of Europe, and our markets in consequence obtain a regular supply from the various decoys and other modes of capture. Although numbers in spring return again to more northern localities to breed, many remain in this country and pass the summer near fresh-water lakes. That some of these breed here, also, in suitable localities, is proved by the fact that in the summer of 1817, Mr. Youell, of Yarmouth, had four young birds of the Teal brought to him, which were hatched at Reedham in Norfolk. The authors of the Catalogue of Norfolk and Suffolk Birds say also, that very small ones have been observed in company with their parents upon Ranworth Broad, by Mr. Kerrison of that place; and that they breed also on Scoulton Mere. The Rev. Richard Lubbock, of Norfolk, in his note to me on this species, says, "the Teal must, in some years, either breed abundantly with us, or migrate hither very early; I have known sixty or seventy Teal come in small parties to the same plash of water at sundown, by the first week in August." The Teal bear confinement well, and at the Gardens of the Zoological Society, though restricted to a very small pond with a margin of thick and high grass, with some low shrubs, have bred regularly for the last five seasons. The eggs are white tinged with buff, measuring one inch nine lines in length, by one inch four lines in breadth. The food of the Teal consists of seeds, grasses, water plants, and insects in their various states. In confinement they require grain. Some Teal breed about the lakes of Wales, and a few in Romney Marsh. Mr. Selby, who has paid attention to the habits of this species in Northumberland, says, "our indigenous broods, I am inclined to think, seldom quit the immediate neighbourhood of the place in which they were bred, as I have repeatedly observed them to haunt the same district from the time of their hatching till they separated and paired, on the approach of the following spring. The Teal breeds in the long rushy herbage about the edges of lakes, or in the boggy parts of the upland moors. Its nest is formed of a large mass of decayed vegetable matter, with a lining of down and feathers, upon which eight or ten eggs rest." Dr. Heysham, in his Catalogue of Cumberland Animals, says, that a few Teal certainly breed in the mosses of that county every year.

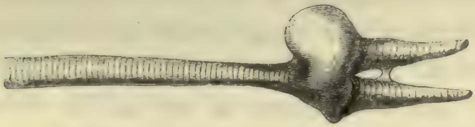
In Ireland the Teal is found in great numbers throughout the winter, and a few are resident there all the year. Sir Robert Sibbald, and other authorities since his time, notice the Teal as inhabiting the edges of the Scottish lakes; Mr. Dunn, however, says that it is not numerous either in Orkney or Shetland, although the most so in winter; but that a few pairs occasionally remain during summer and breed. They prefer the inland lakes to the sea-shore. Richard Dann, Esq. sent me word that this beautiful little Duck is widely and numerously dispersed over the whole of Norway and Sweden, but is most plentiful in the north during the breeding-season. It breeds all over Lapland, both western and eastern, and is very abundant in the Dofre Fiell, within the range of the birch trees. The eggs vary in number from ten to fifteen. It breeds also in the cultivated districts in all the mosses and bogs. Mr. Proctor says the Teal is pretty common in Iceland. Eastward of Scandinavia it is found in Russia, and is abundant in Germany, Holland, France, Spain, Italy, Corfu, Sicily, and Malta; visits North Africa in winter, and has been noticed at Smyrna and Trebizond. The Teal was found in the vicinity of the Caucasian range, by Russian naturalists, and is included in catalogues of the birds of various parts of India, China, and Japan. The Teal of North America is distinct from the Teal of Europe.

In the adult male Teal the beak is nearly black; the irides hazel; forehead, and a narrow band over the top of the head, rich chestnut brown; at the gape and upwards, along the base of the upper mandible, and from thence high up over the eye, and then backwards towards the occiput, there is a narrow line of buff; from the lower edge of the eye to a point below and behind the ear-coverts, another narrow line of the same light colour; all the space from the eye between these two lines, and extending backward to the occiput, forms a broad patch of rich glossy green; cheeks and sides of the neck, below the under light coloured line rich chestnut; back of the neck, scapulars, and upper part of the back a mixture of black and white in narrow transverse lines; the longest of the scapulars and the tertials dark brown; all the smaller wing-coverts ash-brown; the large coverts tipped with white, forming a bar, two or three of the higher coverts having their white tinged with bay; primaries dark brown; the secondaries forming a speculum of velvet black, green and purple, tipped with white; lower part of the back dark brown; upper tail-coverts almost black, edged with rufous; tail-feathers pointed, dark brown; the chin black; front of the upper part of the neck chestnut; lower part of the neck in front partly covered with circular spots of black, on a ground of white, tinged with pale purple; breast and belly white; sides and flanks barred with narrow black and white lines; central under tail-coverts velvet black; lateral tail-coverts delicate buff colour, with a narrow band of velvet black at the base; under surface of tail-feathers ash-grey; legs, toes, and membranes brownish-grey.

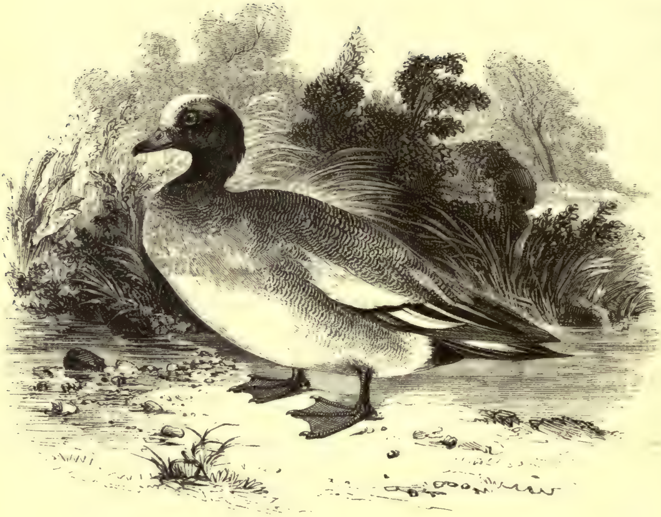
The whole length fourteen inches and a half. From the carpal joint to the end of the wing seven inches and a quarter; the first and second quill-feathers nearly equal; and the flight of the species very rapid.

Of male Teal observed constantly last summer, some had lost the sexual distinctions of the plumage by the 27th of July, and all were changed by the 4th of August; remaining like the females, till they acquired new feathers at the autumn moult. The female has the whole of the head speckled with dark brown, on a ground colour of light brown; upper part of back and scapulars dark brown, each feather with two narrow transverse bars of buffy-brown; wing like the male, but the speculum has more velvet black, less green, and no purple colour; chin pale brown; lower part of neck on the front and sides varied with two shades of brown, in crescentic marks; breast white; sides, flanks, belly, and under tail-coverts dull white, spotted with dark brown.

The trachea of the male Teal is about five inches in length, the tube rather narrower near the middle than at any other part; the bony enlargement of the size and form represented in the figure below.



NATATORES. *ANATIDÆ.*



THE WIGEON.

Anas penelope.

Anas	*Penelope,*	*The*	*Wigeon,*	PENN. Brit. Zool. vol. ii. p. 273.
,,	,,	,,	,,	MONTAGU, Ornith. Dict.
,,	,,	,,	,,	BEWICK, Brit. Birds, vol. ii. p. 366.
,,	,,	,,	,,	FLEM. Brit. An. p. 124.
*Mareca**	,,	*Common*	,,	SELBY, Brit. Ornith. vol. ii. p. 324.
,,	,,	*The*	,,	JENYNS, Brit. Vert. p. 236.
,,	,,	,,	,,	GOULD, Birds of Europe, pt. x.
Anas	,,	*Canard siffleur,*		TEMM. Man. d'Ornith. vol. ii. p. 840.

THE immense number of Wigeons which visit this country during the winter season render it a valuable species here, with the additional advantage that it frequents the shores all round the coast, as well as the rivers, lakes, and fens of the interior. It is justly in great esteem for

* *Mareca* of Stephens, 1824.

the table, and, from its abundance, generally sells at a moderate price. Its habits in some respects resemble those of the Wild Duck, and great quantities are taken with them in decoys; while for coast night-shooting, Colonel Hawker says, the Wigeon is like the fox for hunting, it shows the finest sport of anything in Great Britain. Ample directions for approaching and getting shots at these birds on the coast will be found in this gentleman's most amusing and instructive work on all that relates to guns and shooting.

The Wigeon appears first about the end of September or the beginning of October, and flocks continue to arrive at intervals till the weather becomes severe. Mr. Waterton observes that the "Wigeon is a much more familiar bird than either the Pochard or the Teal. While these congregate on the water, beyond the reach of man, the Wigeon appears to have divested itself of the timidity observable in all other species of wild-fowl, and approaches very near to our habitations. A considerable time elapsed before I was enabled to account satisfactorily for the Wigeons remaining here during the night; a circumstance directly at variance with the habits of its congeners, which, to a bird, pass the night away from the place where they have been staying during the day. But, upon paying a much closer attention to it than I had formerly been accustomed to do, I observed that it differed from them all, both in the nature of its food, and in the time of procuring it. The Mallard, the Pochard, and the Teal, obtain nearly the whole of their nourishment during the night. On the contrary, the Wigeon procures its food in the day time, and that food is grass. He who has an opportunity of watching the Wigeon when it is undisturbed, and allowed to follow the bent of its own inclinations, will find that, while the Mallard, the Pochard, and the Teal, are sporting on the water, or reposing on the bank at their ease, it is devouring with avidity that same kind of short grass on which the Goose is known to feed. Hence, though many flocks of Wigeons accompany the other water-fowl in their nocturnal wanderings, still numbers of them pass the whole of the night here ; and this I know to be a fact, by their singular whistling noise, which is heard at all hours."

In March and April the Wigeon again moves northward for the breeding-season, and it is only within the last few years that a small number have been ascertained to remain in the most northern part of Scotland, to breed about the lakes of Sutherlandshire. Colonel Hawker says that "Wigeon either choose their mates, or detach themselves into small trips preparative to so doing, by about Valentine's day." Mr. Selby, in his paper on the Birds inhabiting the county of Sutherland, says, "as the Wigeon had not previously been detected breeding in Britain, we were much pleased to observe several pairs upon the smaller locks near Lairg, which we concluded had their nests among the reeds and other herbage which grew in their vicinity. We were not so fortunate, however, as to find one here, though diligent search was made ; but afterwards, upon one of the islands of Loch Laighal, we sprung a female, which was shot from her nest, containing seven eggs. It was placed in the heart of a large rush bush, and was made of decayed rushes and reeds, with a lining of warm down from the bird's body. The eggs were smaller than those of the Wild Duck, and of a rich cream-white colour." The length two inches and one-eighth, by one inch and a half in breadth. Sir W. Jardine, who was one of the exploring party with Mr. Selby in Sutherlandshire, in June 1834, mentions that "Wigeon were seen upon Loch Shin, Loch Naver, Loch Loyal, and Loch Hope. They were by no means abundant; and it is probable that the birds in this district were at the most southern limit of their breeding stations, and bore no proportion whatever to the immense flocks which frequent our coasts in winter." The note of the Wigeon is a shrill whistle, and in some parts of England it is in consequence called the Whew Duck and Whewer; its name in France, *Canard siffleur*, has reference to the same circumstance. In some books on cookery, and in bills of fare, Wigeons are called Easterlings; and all over Lapland they are called Grass Ducks. The note of Richard Dann, Esq., in reference to the Wigeon in Scandinavia, is as follows:—"This is the most abundant of all the Duck tribe in Lapland, frequenting the grassy swamps, lakes, and rivers. They appear with the first breaking up of the ice, in pairs, and as soon as the female begins to lay, the male loses his beautiful plumage, and secretes himself in willow swamps, and in the most inaccessible morasses; nor does he recover his former appearance until November or December. The females lay from five to eight eggs. They also breed in the Dofre Fiell, as high as the birch grows, and in many other parts of Norway and Sweden, but only in straggling pairs. They migrate south early in September, appearing in great flocks on the coast of Norway and Sweden. The young keep among the rushes and reeds in the lakes; the old birds betaking themselves to the shallows on the coast; but they, unlike the Mallard, entirely leave Sweden in the winter."

Mr. Proctor sent me word that a few breed in Iceland, forming their nest generally among low bushes near the edge of the fresh-waters.

The female Wigeon has not been known to breed in confinement that I am aware of, but the male has bred with a Pintailed Duck, and in another instance with a dun-coloured variety of the Common Duck. A preserved specimen given me by Richard Dann, Esq. has all the appearance of being a hybrid between the Wigeon and Common Duck. A few pairs breed in Holland, according to M. Temminck; and these birds are abundant in France and Germany throughout the winter. They are found in Spain, and are observed at Genoa on their passage in spring; and from Italy and Sicily are said to go as far south as Egypt. Mr. Strickland saw Wigeon at Smyrna during winter. It has been observed in the vicinity of the Caucasus, and is found in various parts of India, in China, and Japan.

In the adult male the bill is brownish-black, tinged with lead colour; irides dark brown; from the eye a green streak passing backwards; forehead and top of the head cream white; the cheeks and hind part of the neck rich reddish chestnut; interscapulars, scapulars, and all the back greyish-white, crossed with irregular zigzag lines of black; upper tail-coverts freckled with grey; tail-feathers elongated, pointed, and nearly black; wing-coverts white, tipped with black; the primaries uniform dark-brown; the outer webs of the secondaries form a green speculum edged with black; the black outer webs of the tertials broadly edged with white; the inner webs hair-brown; chin and neck in front almost black; lower part of the neck and the space before the wing pale rufous; under wing, sides, and flanks, marked with dark transverse zigzag lines on a ground of white; breast, belly, and vent white; under tail-coverts velvet black; legs, toes, and their membranes dark brown.

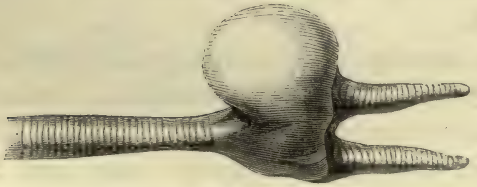
The whole length eighteen inches. From the carpal joint or point of the wing, to the end of the longest quill-feather, ten inches and a half; the length of the first and second primary quill-feathers nearly equal.

The adult male birds undergo considerable change in their appearance towards the end of July or the beginning of August, becoming much more uniform in their general colour, losing some of the most conspicuous external differences which distinguish males from females, and which are to be considered as secondary sexual characters.

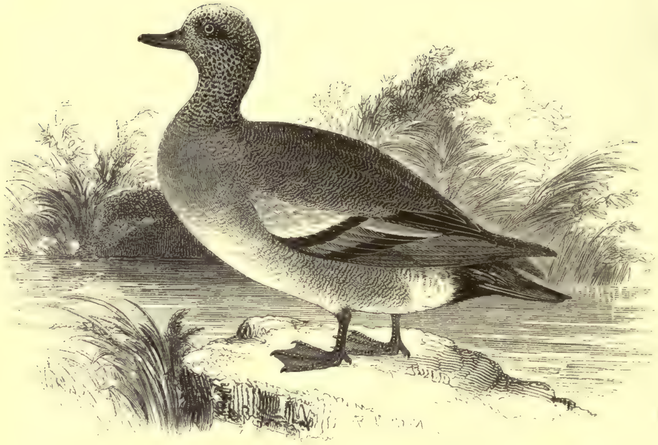
The female Wigeon has the bill bluish-black; the irides brown; head and neck brown, tinged with rufous, and speckled with dark brown; the back varied with two shades of brown, that in the centre of each feather the darkest in colour, the paler brown on the margins tinged with rufous; quill and tail-feathers as in the male; under surface of the body nearly white.

The plumage of the young male birds of the year, for a time, resembles that of the females.

The tube of the windpipe in the adult male Wigeon is about six inches in length, and nearly equal in diameter throughout; the form of the bony enlargement and the depending bronchial tubes as figured in the vignette below.



NATATORES. *ANATIDÆ.*



THE AMERICAN WIGEON.

Anas Americana.

Anas Americana,	*American Wigeon,*	Wilson, Am. Ornith. vol. viii. p. 86.
” ”	” ”	Jardine's edit. vol. iii. p. 109.
” ”	” ”	Audubon, Ornith. Biog. vol. iv. p. 337.
” ”	” ”	Nuttall, Man. vol. ii. p. 389.
Mareca, ”	” ”	Stephens, Shaw. Zool. vol. xii. p. 135.
” ”	” ”	Faun. Bor. Amer. vol. ii. p. 445.

The occurrence of the American Wigeon in a London market during the winter of 1837-8, was thus noticed by Mr. Edward Blyth, in the third volume of the Naturalist, page 417.

"The American Wigeon is a novelty which was obtained by Mr. Bartlett. He selected it from a row of Common Wigeons, deeming it, at the time, to be only an accidental variety of the species; there was a female along with it, which, after some hesitation, he unfortunately left, considering it only as a variety, but insufficiently diverse to be worth preserving; he has since, however, positively recognised the female of the American Wigeon to be identical with the bird he thus passed over, hesitatingly, in the market. The dimensions of the male bird were nineteen inches in length, and thirty-two and a half in extent of wing; the beak is rather narrower than that of its European relative, and nearly a quarter of an inch longer; the tracheal labyrinth, or rather osseous vesicle, considerably smaller; scarcely exceeding in magnitude that of a Teal."

I am indebted to the kindness of Mr. Bartlett for the opportunity afforded me of giving a figure, description, and measurements from his specimen. Towards the end of February, 1844, a second specimen of this American Wigeon was shot by Henry Bell, a wild-fowl shooter, in Strangford-lough, near Belfast, as recorded by W. Thompson, Esq., of Belfast, in the Annals of Natural History, vol. xv. p. 310; and this wild-fowl shooter, who is an intelligent man, and has followed the practice since he was able to carry a gun, is certain of having killed other birds of the same species in Belfast Bay, but never any so far advanced towards the adult male plumage, and therefore his attention was the less excited. I must refer to American authorities for the habits and localities of this bird. Wilson says "this species is very common in winter along the whole coast, from Florida to Rhode Island, but most abundant in Carolina, where it frequents the rice plantations. In Martinico, great flocks take short flights from one rice field to another, during the rainy sesaon, and are much complained of by the planters. The Wigeon is the constant attendant of the celebrated Canvass-back Duck, so abundant in various parts of the Chesapeake Bay. They are said to be in great plenty at St. Domingo and

Cayenne, where they are called 'vingeon,' or 'gingeon; are said sometimes to perch in trees; feed in company, and have a sentinel on the watch, like some other birds. They feed little during the day, but in the evening come out from their hiding-places, and are then easily traced by their particular whistle, or *whew*, *whew*. This soft note, or whistle, is frequently imitated with success, to entice them within gunshot. They are not known to breed in any part of the United States; are common in the winter months along the bays of Egg Harbour and Cape May, and also those of the Delaware. They leave these places in April, and appear upon the coasts of Hudson's Bay in May, as soon as the thaws come on, chiefly in pairs; lay there only from six to eight eggs, and feed on flies and worms in the swamps; depart in flocks in autumn. These birds are frequently brought to the market of Baltimore, and generally bring a good price, their flesh being excellent. They are of a lively frolicsome disposition, and with proper attention might easily be domesticated."

Dr. Nuttall says "he has never seen them anywhere so numerous as in the Neuse river, round Newbern, forty miles from the ocean, where, in company with the Canvass-back and Buffel-head, they are seen constantly in February and March."

Mr. Audubon says "this Duck is abundant during winter at New Orleans, where it is much esteemed on account of the juiciness of its flesh, and is best known by the name of *Zinzin*. In the western country, and in most parts of the eastern and Middle States, it is called the *Bald Pate*. While advancing along the shores of the Bay of Mexico, in April 1837, I and my party observed this species in considerable numbers; and during the whole of our stay in the Texas, we daily saw, and very frequently procured

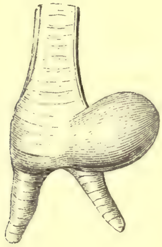
Wigeons. There they were found in ponds of brackish water, as well as in the fresh-water streams. Before we left that country they were all paired; and I was informed by the Honourable M. Fisher, secretary to the Texian Navy, that a good number of them breed in the maritime districts, along with several other Ducks, and that he annually received many of the young birds. Their manners at this time fully proved the correctness of the statements of all those who spoke to me on this subject. Indeed, my opinion is, that some of these birds also propagate in certain portions of the most southern districts of the Floridas, and in the Island of Cuba, as I have seen Wigeons in the peninsula in single pairs, in the beginning of May." Mr. Audubon adds, that the note of this bird is not in his judgment at all like the *hew*, *hew*, spoken of by Wilson.

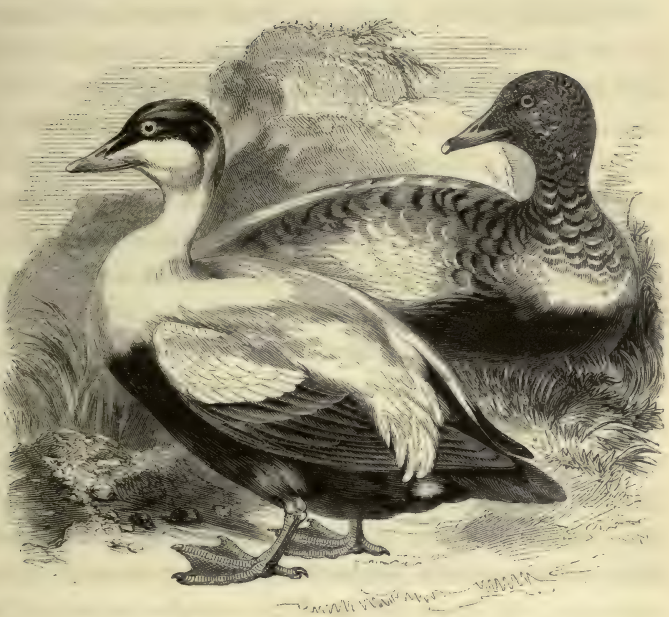
Dr. Townshend states that it is abundant on the Columbia River; and Dr. Richardson obtained it as far north as the Saskatchewan, in May 1827.

In Mr. Bartlett's bird the beak is black; the irides hazel; behind the eye a green streak passing backward; forehead and top of the head dull white; neck, cheeks, and occiput, pale brownish white, freckled with black, the occipital feathers a little elongated; upper part of the back, the scapulars, and part of the wing-coverts reddish-brown, each feather crossed with minute zigzag blackish lines, some of the elongated scapulars falling over the wing-coverts; lower part of the back hair-brown; upper tail-coverts brown, barred with pale brown; tail-feathers uniform brown, slightly elongated and pointed; wing-coverts white, slightly varied with brown; the greater coverts tipped with black; the primaries uniform brown; the outer webs of the secondaries forming a green speculum, tipped with black; outer web of the tertials blackish-brown, inner web hair-brown; lower part of the neck in front reddish-brown, extending along under the wing to the flanks, which are barred with dark lines; breast, belly, and vent white; under tail-coverts brownish-black; legs, toes, and their membranes dark brown. The whole length nineteen inches. From the carpal joint to the end of the wing ten inches; the second quill-feather the longest in the wing, but the first almost as long.

Wilson says "the female has the whole head and neck yellowish-white, thickly speckled with black, very little rufous on the breast; the back is dark brown. The young males, as usual, very much like the females during the first season, and do not receive their full plumage until the second year. They are also subject to a regular change every spring and autumn."

The lower part of the trachea, here introduced from Mr. Audubon's work, is, as noticed by Mr. Blyth, of small size, and decidedly different in form from that of the European Wigeon.





THE EIDER DUCK.

OR ST. CUTHBERT'S DUCK.

Somateria mollissima.

Anas	*mollissima,*	*Eider Duck,*	PENN. Brit. Zool. vol. ii. p. 243.
,,	,,	,, ,,	MONTAGU, Ornith. Dict.
,,	,,	,, ,,	BEWICK, Brit. Birds, vol. ii. p. 322.
Somateria	,,	*Common Eider,*	FLEM. Brit. An. p. 119.
,,	,,	,, ,,	SELBY, Brit. Ornith. vol. ii. p. 338.
,,	,,	*Eider Duck,*	JENYNS, Brit. Vert. p. 237.
,,	,,	,, ,,	GOULD, Birds of Europe, pt. iv.
Anas	,,	*Canard Eider,*	TEMM. Man. d'Ornith. vol. ii. p. 848.

SOMATERIA. *Generic Characters.*—Bill swollen and elevated at the base; extending up on the forehead, where it is divided by an elongated, descending, angular projection of feathers down the surface. Nostrils lateral, oval, small. Legs short; feet of four toes, broadly webbed, hind toe with a deeply lobated membrane. Wings only of moderate length, with the first quill-feather equal in length to the second.

The distinguishing characters, both external and internal, of the first division of true Ducks, will be found at page 243 of the present volume; those of the second division of these birds which now remain to be described are decidedly different, and may be thus stated:—Externally they exhibit the neck and wings short, the latter only reaching to the origin of the tail-feathers; the legs short and compressed; the hind toe lobated, with an extended web to the inner toe. They frequent the sea, or the deep parts of the largest fresh-water lakes, and have been called Oceanic Ducks; seldom seen on land; their walk embarrassed from the backward position of the legs, but they dive constantly and with great facility, taking their prey at various depths below the surface; their food, fish, shelled mollusca, crustacea, and marine insects, but little or no vegetable production; their powers of flight moderate. Of their soft parts, the œsophagus is capable of great dilatation; the stomach is a muscular gizzard, but the internal cavity is large, and the sides comparatively thin. The ribs are elongated; and the keel of the breastbone decreases in depth in those species which in their habits most resemble the Mergansers.

The Eider Duck, though indigenous to some of the northern parts of England, as well as several of the Scottish Islands, is only a winter visiter to the southern portions of the kingdom, and that too in very limited numbers. It is but rarely killed in Ireland, and has been seen and shot on the Cornish, Devonshire, Dorsetshire, Hampshire, and Norfolk coasts. A fine adult bird was obtained in the London market in January 1843, and I saw two beautiful specimens in January 1844. On the other side the Channel, M. Baillon, of Abbeville, procured a female which was killed in Picardy, during the middle of summer; and Pollidore Roux included the Eider Duck among the birds found in Provence.

The most southern locality in this country at which this species is known to breed regularly, is that which was visited by Pennant in July 1769, and has been frequently visited by Mr. Selby, namely, the Fern Islands, situated upon the northern coast of Northumberland. Here, the latter gentleman observes, "these birds, if protected, would soon become very numerous, and might be made a source of productive wealth, as they afford, in great abundance, that fine and elastic down known by their name, and which, as an article of luxury, produces an exorbitant price. This consideration, however, has hitherto been lost sight of, and the eggs of the Eider have been taken indiscriminately with those of the Gull, Guillemot, &c. and sold for a mere trifle to the inhabitants of the main land. In consequence, the young annually produced have been few, and those only of the later or second hatchings. The last season, however, proved more fortunate to all the feathered inhabitants of the islands, as they were protected from extensive depredation by the gentleman employed as architect to erect a light-house upon one of the outer rocks. A very numerous brood of all the species, but particularly of the Eiders, was the consequence of this care. About April these birds are seen assembling in groups along the shores of the main land, from whence they cross over to the islands early in May. As soon as the females begin to lay, which is usually about the 20th, the drakes leave them, and again spread themselves along the adjoining coast. The usual number of eggs is five, of a pale asparagus green, and rather large, measuring three inches in length, by two inches and one line in breadth. The nest is composed of fine seaweed, and as incubation proceeds, a lining of down, plucked by the bird from her own body, is added; this increases from day to day, and at last becomes so considerable in quantity, as to envelope and entirely conceal the eggs from view, no doubt contributing by its effect, as a nonconductor of heat, to the perfect evolution of the fœtus. The young, as soon as hatched, are conducted to the water, and this, in some instances, must be effected by the parent carrying them in her bill, as I have frequently seen the nest placed in such situations as to preclude the possibility of its being done in any other way. Incubation lasts a month. The food of the Eider consists of the young of the different muscles that cover the rocks, and other species of bivalves. The young are reared with difficulty in confinement, and being very bad walkers, are subject to frequent accidents in the poultry-yard. Like all the *Anatidæ*, possessing a lobated hind toe, they dive with facility, and remain submerged for a long time."

The Eider Duck is also called St. Cuthbert's Duck, from the circumstance of its breeding there on a rock, called St. Cuthbert's Isle, as well as upon other islands which form the group. "So early as A.D. 635, says the author of Rambles in Northumberland and on the Scottish Border, a monastery was established at Lindisfarn, one of these islands, by Aidan, a Scottish monk, educated in the island of Iona, or Icolmkil, who exercised the office of bishop in Northumberland. From this period a succession of bishops continued to preside at Lindisfarn till about 803, when, in consequence of the monastery having been several times plundered by the Danes, the bishop and his brethren abandoned the island, taking with them the body of St. Cuthbert, which had been interred in the church, as one of their most precious relics. After the saint's body had been in a state of almost perpetual transit for nearly two centuries, he at length made choice of Durham, as a final resting-place, and thither the See of Lindisfarn was transferred, with the remains of St. Cuthbert, in 995. Though Lindisfarn thus lost its importance as a bishop's see, it was not entirely deserted as a place of religious abode; for a cell of Benedictine monks, dependent on the abbey at Durham, was afterwards established there, which continued to the suppression of the monasteries by Henry the Eighth."

Mr. J. Macgillivray, who visited the outer Hebrides in the summer of 1840, mentions that these birds breed on several of the islands there, more particularly that called Haskir. Mr. Bullock brought nest, down, eggs, and young birds, from Papa Westra, one of the Orkneys in 1812; and this species has since been observed on the islands of Orkney and Shetland by Mr. Drosier, Mr. Salmon, Mr. Dunn, and others, from 1828 to the present time. Mr. Hewitson mentions that the Eider was the most numerous of the Ducks breeding on some of the islands on the west coast of Norway, where they are strictly protected. Upon one island which Mr. Hewitson and his friend visited, in company with the keeper, the females were sitting in great numbers, and were so perfectly tame, and on such familiar terms with him, that they did not appear to be in the least disturbed whilst we stood by to look at them, and some of them would even allow him to stroke them on the back with his hand. The male birds at this time were floating about in hundreds among the islands, giving the sea a lively and even beautiful appearance. Earl Derby's principal menagerie keeper, who was sent to Sweden in the summer of 1839, brought back with him a brood of young Eiders, which he reared, feeding them on slugs, and the bodies of shelled mollusca. Several of these birds are now alive at Knowsley. Eider, Eder, or Edder, is the name applied to this Duck in Germany, Sweden, Denmark, and Norway. It is found on the Faro Islands, at Iceland, at Spitzbergen, and at Nova Zembla. Mr. Scoresby observes that the specimens seen by him at Spitzbergen were smaller than those in the seas of Greenland. To the westward these birds were noticed in Davis' Straits, Baffin's Bay, and on each of the Arctic voyages performed by Sir Edward Parry and others. The Eider Duck is also found in the northern parts of North America, as will be found by reference to the ornithological works of Dr. Richardson, Mr. Audubon, and Wilson.

In the adult male the beak is dusky green; the nail white; the irides brown; top of the head velvet black; lore and cheeks white; ear-coverts and occiput pale green; back, scapulars, tertials, point of wing, and smaller wing-coverts white; greater wing-coverts black, wing primaries and secondaries dull black; the tertials elongated, and falling partly over them; rump black; tail-feathers dull black; chin and upper part of neck in front white; lower part of neck pale buff; breast, belly, sides, and all the under surface black, except a patch on the flank, which is white; legs, toes, and their membranes dusky green. The whole length twenty-five inches. From the point of the wing to the end of the longest quill-feather eleven inches.

Young males of the Eider are at first like the adult female, but when changing in their first winter the head and neck are mottled with two shades of dark brown, with a few white feathers appearing through in different parts; lower portion of neck, and upper part of the back, mottled black and white; wing-coverts and tertials becoming white; the rest of the plumage black; legs and bill greenish-grey. The pure white colour is assumed by slow degrees, and the males do not attain the appearance of adult birds till their third winter.

The female in colour is like the hen of the Black Grouse, namely, a pale brown, tinged with red, and varied with marks of darker brown; very similar to the female of the King Duck hereafter figured; the quill and tail-feathers dull black.

The following notes in reference to the periodical changes of the plumage in old and young Eider ducks, have been supplied me by James Hunt, the head-keeper at the Zoological Gardens in the Regent's Park.

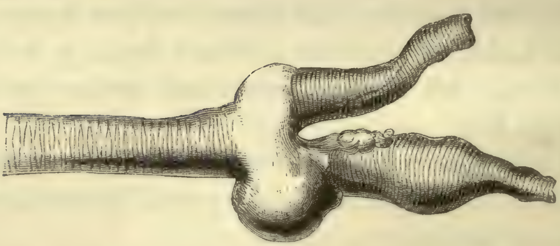
August 21st, 1845. An old male. This bird began to lose its white, or breeding plumage, about the 7th of June, and by the 20th of July it was almost black, a few white feathers being left on the back, which did not disappear. This change seems to be an alteration in colour, as very few feathers were shed during the change. He remained in this state of plumage till about the 4th instant, when he commenced moulting, and about the 14th instant, the white feathers on the breast and back began to reappear. He is now full of new feathers and getting the white plumage fast.

A male bird of the year 1842, received from Norway in October 1844 did not acquire his perfect breeding plumage this last summer.

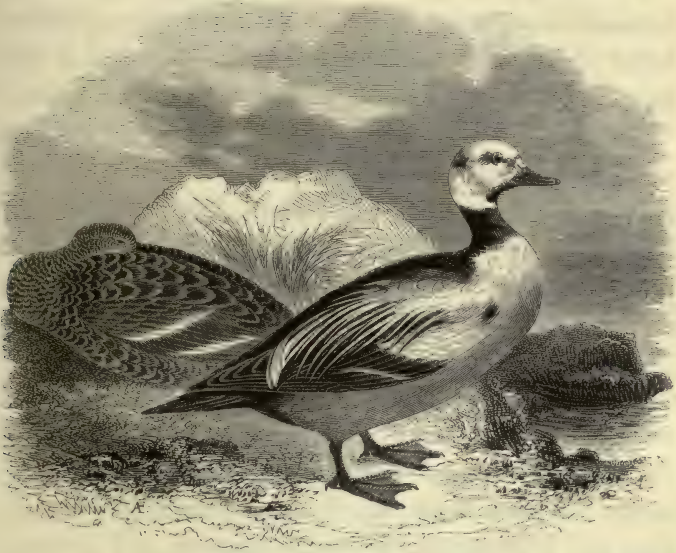
Eleven young birds of the season of 1844, were received at the Gardens from Scotland on the 24th of August of the same year: they were then about eleven weeks old, of a dark brown colour, and without distinction in plumage as to sex. About a month after their arrival the male birds began to get much darker in colour, almost black, and by the middle of October a few white feathers began to appear on the back. The white feathers did not appear on the breast till the middle of November. This change seemed to go gradually on till June, when the breeding plumage was observed to be about half perfect. They began to lose their white plumage about the same time as the oldest male, but they did not lose so much of it, as a number of the white feathers remained on the back and breast. They commenced moulting about the same time as the old bird, and the white plumage is now coming on them much the same as on him.

No perceptible change takes place in the plumage of the females.

The windpipe of the male Eider measures nine inches in length, the tube uniform in size throughout; the bony labyrinth and inferior tubes as represented below.



NATATORES. *ANATIDÆ.*



STELLER'S WESTERN DUCK.

Somateria dispar.

Fuligula dispar,	*Western Pochard,*	SELBY, Brit. Ornith. vol. ii. p. 360.
„ „	„ „	JENYNS, Brit. Vert. p. 243.
„ „	„ *Duck,*	GOULD, Birds of Europe, pt. xviii.
Polysticta Stelleri,	„ „	EYTON, Rare Brit. Birds, p. 79.
Anas dispar,	*Canard de Steller,*	TEMM. Man. d'Ornith. vol. iv. p. 547.

A SINGLE example of this rare species of Duck was shot on the 10th of February 1830, at Caistor, about three miles north of Yarmouth, in Norfolk, and was soon afterwards presented to the Norwich Museum by the Rev. George Steward, as stated by Messrs. C. and J. Paget, in their Sketch of the Natural History of Yarmouth and its neighbourhood. It has since been noticed by the various authors above named, whose synonyms are quoted, and by the kindness of Mr. Charles Buckler, who allowed me the use of a drawing taken by himself from the bird at Norwich, I am enabled to give an exact representation of the only British killed specimen that I am acquainted with. It is a male very closely approaching the perfect plumage of an adult.

This species of Duck has now been killed three or four times in Sweden, and once in Denmark. Professor Nilsson, in his Fauna of Scandinavia, has given coloured figures of both sexes; and M. Temminck further remarks that it visits the Eastern parts of the North of Europe, and has occasionally wandered into Germany.

It inhabits Asia and North America; was originally described, from specimens obtained by Steller, in Kamtschatka, where it breeds upon rocks inaccessible to man. Dr. Latham mentions that there was a specimen formerly in the Leverian Museum. Examples have been brought from the Western side of North America, and it was in consequence called the Western Duck, and *Anas occidua.* The description of the plumage of the adult male here given was taken from a beautiful specimen in the possession of Mr. John Leadbeater.

It is stated of this species that it flies in flocks, and never enters the mouths of rivers. Its food is marine insects, with mollusca naked and testaceous.

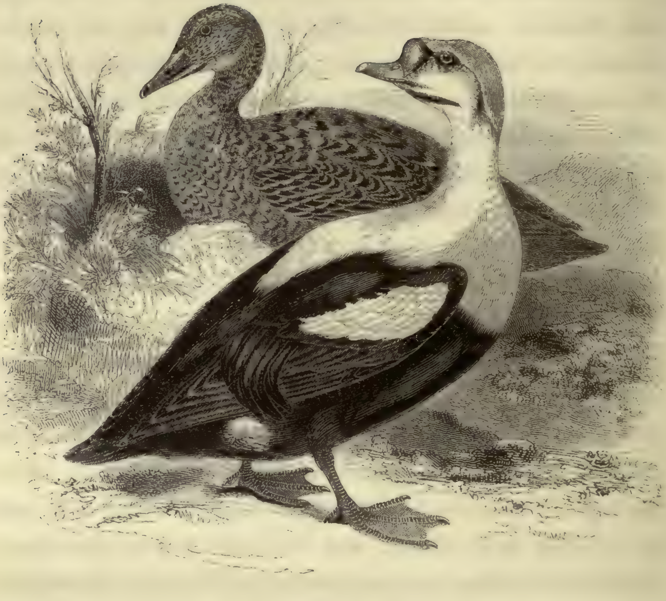
It will be observed that some of the English authors quoted under the figure of the bird, have considered it a *Fuligula*, and have arranged it among the Pochards, not, however, without some doubts that this would probably be found not to be its natural situation. The anatomy, which I believe is as yet unknown, will at some future time indicate the proper location; but in its general character and appearance, with its habit of breeding on high and steep rocks, it appears to me to be more closely allied to the Eider Duck, and I have accordingly placed it next in succession to that species.

In the adult male the bill is brownish-black; the irides pale brown; round the eye a narrow ring of black; between the beak and the eye, and on the occiput, a patch of pale green; head, cheeks, and part of the neck behind white; below the white on the neck there is a collar of black, which ends in a broad stripe, passing the whole length of the middle of the back and upper tail-coverts, this latter portion tinged with raven blue; the wing primaries and tail-feathers brown; the secondaries in part white, with a steel blue outer web forming a rich speculum; the terminal portions white; each tertial feather white on the inner web, rich blue on the outer web, and curved downwards towards the end: wing-coverts white; scapulars elongated, and like the tertials, with the narrow inner web white, the broader outer web rich blue; chin and throat rich brown; below the broad bluish-black collar is a narrow collar of white, the colour extending over the sides of the neck to each wing; just below the point of the wing, some of the white feathers have black at the tip, forming a dark patch; middle of breast and belly rich chestnut brown, passing off into a buff colour on the front, sides, and flanks; vent, and under tail-coverts dark brown; legs, toes, and their membranes black; the hind toe with a deep lobe.

The whole length of the bird nineteen inches. From the point of the wing to the end of the longest quill-feather nine inches.

Our figure of the female Western Duck was taken from M. Nilsson's coloured plate, and has the greater coverts and the secondaries tipped with white, forming two bars enclosing between them a bluish-black speculum.

NATATORES. *ANATIDÆ.*



THE KING DUCK.

Somateria spectabilis.

Anas	*spectabilis,*	*King Duck,*	**Penn.** Brit. Zool. vol. ii. p. 246.
„	„	„ „	**Montagu**, Ornith. Dict.
„	„	„ „	**Bewick**, Brit. Birds, vol ii. p. 327.
Somateria	„	*King Eider,*	**Flem.** Brit. An. p. 120.
„	„	„ „	**Selby**, Brit. Ornith. vol. ii. p. 343.
„	„	„ *Duck,*	**Jenyns**, Brit. Vert. p. 238.
„	„	„ „	**Gould**, Birds of Europe, pt. iv.
Anas	„	*Canard à tête grise,*	**Temm.** Man. d'Ornith. vol. ii. p. 851.

This species is very little inferior to the Eider Duck in size, and also resembles it in its habits, but is much more rare as a British bird; indeed, there are but few instances recorded of its occurrence. Mr. Bullock assured Colonel

Montagu that he found this bird breeding in Papa Westra, one of the Orkney Islands, in the latter end of June. It had six eggs, rather less than those of the Eider Duck, and, like that bird, covered them with its own down. The nest was on a rock impending the sea. An egg of this species, in my own collection, is of a pale green colour, two inches, and rather more than a half long, by one inch and three quarters in breadth.

According to Mr. Thompson, this species has been killed in Ireland, and the specimen is in the collection of Mr. Robert Ball, of Dublin. The Rev. Leonard Jenyns mentions that it has been killed at Aldborough on the coast of Suffolk ; and M. Vieillot says it has been taken in France.

Professor Nilsson of Sweden states that some visit the most northern part of the Baltic, Denmark, and Norway. A few breed in the Faroe Islands and at Iceland, but in the higher northern regions they are numerous. Nova Zembla, Spitzbergen, and various parts of Greenland, are annually visited by these birds in vast numbers during the breeding-season, and accounts were furnished by the naturalists who sailed with the various Arctic expeditions of discovery from this country. In the Appendix to Sir Edward Parry's first voyage, it is stated by Major Sabine that this species were very abundant in the North Georgian Islands, having their nests on the ground in the neighbourhood of fresh-water ponds, and feeding on the aquatic vegetation. Captain James C. Ross, in the last published Appendix, says, " vast numbers of this beautiful Duck resort annually to the shores and islands of the Arctic Regions in the breeding-season, and have on many occasions afforded a valuable and salutary supply of fresh provision to the crews of the vessels employed on those seas. On our late voyages comparatively few were obtained, although seen in very great numbers. They do not retire far to the south during the winter, but assemble in large flocks ; the males by themselves, and the females, with their young brood, are often met with in the Atlantic Ocean, far distant from any land, where the numerous crustaceous and other marine animals afford them abundance of food."

The adult male has the beak reddish-orange, bounded with a black line ; the irides yellow ; cheeks white, tinged with green ; top of the head and the occiput bluish-grey ; lower part of neck behind, the upper part of the back, and the scapulars white ; lower part of the back, the rump, and upper tail-coverts black ; the point of the wing black ; wing-coverts white ; all the wing and tail-feathers nearly black ; the primaries tinged with red on the inner web ; the ends of the elongated scapulars and tertials fall in curves over the wings ; under the chin a streak of black ; front of neck and breast white, the latter tinged with buff ; the lower part of the breast, the belly, and all the under surface black, except a patch on the flank, which is white ; legs, toes, and membranes orange-red.

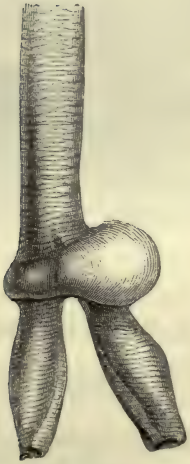
The whole length twenty-four inches. From the carpal joint to the end of the longest quill-feather eleven inches and a half.

The female has the beak greenish-brown, and the whole of the plumage of two shades of brown ; the darker colour occupying the centre of each feather ; the brown on the head and neck rather lighter in colour, than the other parts of the body.

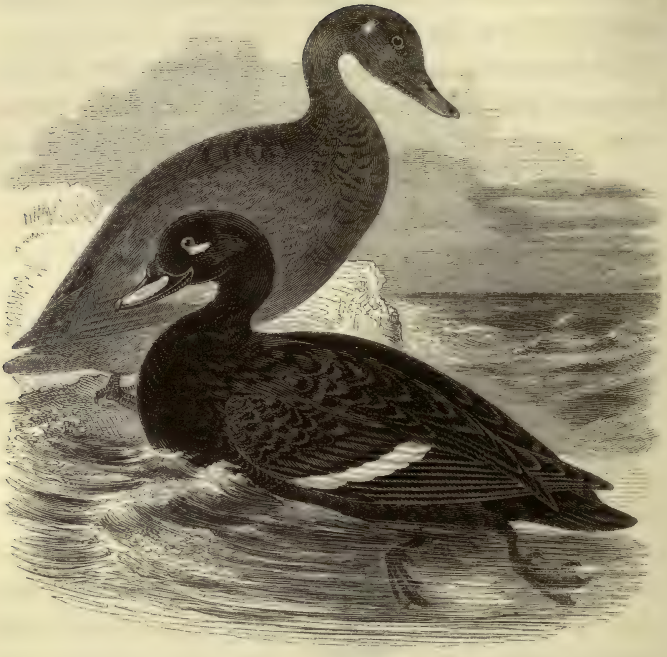
Young males at first resemble the females ; at a later period one described by Dr. Richardson had the head and neck dusky yellowish-grey, crowded with black spots ;

upper plumage mostly pitch-black, with yellowish-brown edgings; breast and flanks yellowish-brown, spotted and barred with black; belly the same colours intimately mixed; bill as in the female.

The representation of the lower portion of the trachea here given is of a natural size, and taken from a specimen.



NATATORES. *ANATIDÆ.*



THE VELVET SCOTER.

Oidemia fusca.

Anas	*fusca,*	*Velvet Duck,*	**Penn.** Brit. Zool. vol. ii. p. 247.
"	"	" "	**Montagu,** Ornith. Dict.
"	"	" "	**Bewick,** Brit. Birds, vol. ii. p. 337.
Oidemia	"	*Velvet Scoter,*	**Flem.** Brit. An. p. 119.
"	"	" "	**Selby,** Brit. Ornith. vol. ii. p. 333.
"	"	" "	**Jenyns,** Brit. Vert. p. 239.
"	"	" "	**Gould,** Birds of Europe, pt. xxii.
Anas	"	*Canard double macreuse,*	**Temm.** Man. d'Ornith. vol. ii. p. 854.

OIDEMIA. *Generic Characters.*—Bill swollen or tuberculated at the base, large, elevated, and strong; the tip much depressed and flattened, terminated by a large flat nail, which has its extremity rounded and slightly deflected; mandibles laminated, with the plates broad, strong, and widely set. Nostrils lateral, elevated, oval, placed near the middle of the bill. Wings of mean length, concave, acute. Tail short, graduated, acute. Legs far behind the centre of gravity; tarsi short; feet large, of four toes, three in front, and one behind. Outer toe as long as the middle one, and much longer than the tarsus; hind toe with a large lobated membrane.—*Selby*.

THE VELVET DUCK is only a winter visiter to the sea-shore of the British Islands. It has been killed in the vicinity of Dublin, in Cornwall, and in Devonshire. J. G. Shorter, Esq., of Hastings, obtains specimens on that part of the Sussex coast, and it has been killed off Dover. Specimens were obtained in the London market during the winters of 1832 and 1837; Mr. Hoy procured it in Suffolk, and it has also been killed in Norfolk. It occurs in Holland and France, and even as far south as Provence and Italy, being included in the Histories of the birds of those countries by Messrs. Temminck, Vieillot, Roux, and Savi. From its habits of diving rather than flying when approached, it is sometimes caught in the nets of our sea fishermen, by becoming entangled in the meshes, and it is occasionally caught also in the stake nets set for salmon, as noticed by Mr. Selby, who mentions "that in those he had dissected, the gizzard, which was large and strong, was filled with the remains of mytilus, mactra, solen, and other shelly mollusca, intermixed with the spawn of fish or crustaceous animals."

Mr. Robert Dunn says this species is rare in Shetland, but is very common in Orkney, where it arrives in the beginning of winter, and retires again very early in the spring. It frequents the sounds in flocks of ten or twelve, generally feeding in the middle or deep water, and in the stream of the tide. It is remarkably shy, and great caution is required in approaching it. The flesh of this Duck is in no estimation.

The Velvet Duck is included by Muller among the Birds of Denmark; Mr. Hewitson saw it in the western part of Norway; and the memorandum of this species in Scandinavia, supplied me by Richard Dann, Esq., is as follows:—"This Duck is common during the summer months in the interior of the whole of Scandinavia, north of lat. 60°. It frequents and breeds on the large lakes in the mountainous districts, especially those of which the shores are flat and boggy, and covered with vegetation. In Lapland it is common everywhere. The eggs are much sought after by the Laps. These birds are also common in the Dofre Fiel, appearing at the latter end of May. They hatch very late, seldom before the middle of July. Their nests are placed on hummocks, among the willow swamps, or long grass near the water. They frequent the lakes as high as the birch grows.

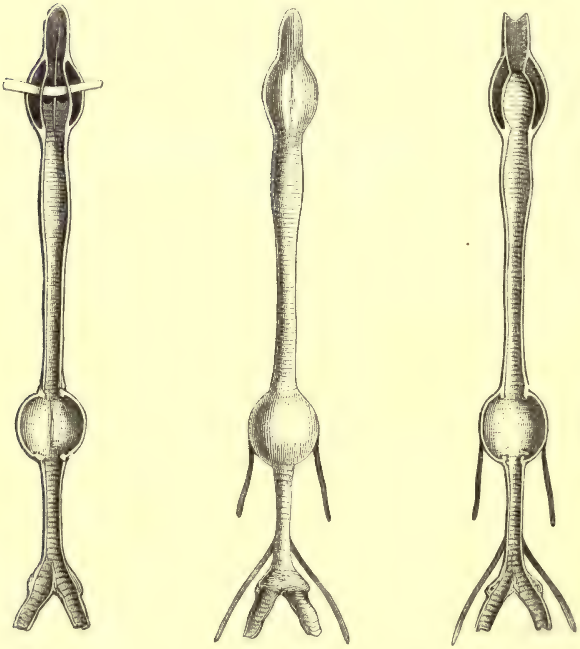
The Velvet Duck inhabits Russia and Siberia, and west of Norway and the Faroe Islands, is found at Iceland. No notice of this species occurs in the natural history returns of any of the recent Arctic voyages. It is, however, abundant in various parts of North America, as detailed by Mr. Audubon, who says "those which breed at Labrador begin to form their nests from the 1st to the 10th of June. The nests are placed within a few feet of the borders of small lakes, a mile or two distant from the sea, and usually under the low boughs of the bushes, of the twigs of which, with mosses and various plants matted together, they are formed. They are large and almost flat, several inches thick, with some feathers of the female, but no down under the eggs, which are usually six in number, measuring two inches and three-quarters in length, by one and seven-eighths in breadth, of a uniform pale cream colour, tinged with green. The males leave the females after incubation has commenced. On the 28th of July I procured five young ones out of a brood of six, among which, although to appearance scarcely a week old, I could readily distinguish the males from the females as they swam on the little pond around their mother; the former having already a white spot under the eye. A pair had bred on the same water for six or seven years in succession, and the young did not leave the pond until they were able to fly."

The adult male has the beak orange, based and edged with black; the irides pale yellowish-white; the eyelid and a small patch behind each eye white; the ends of the secondary quill-feathers white, forming a conspicuous bar across the wing; all the rest of the plumage uniform velvet-black; the legs and toes reddish-orange, the intervening membranes dark brown.

The whole length twenty-two inches. From the point of the wing to the end of the longest quill-feather ten inches and three-quarters.

In the female, Mr. Audubon says, the basal prominence of the bill is much less elevated, and the colour of the whole bill is dusky. The irides and feet are as in the male, but of duller tints; the general colour of the plumage is a sooty brown; the breast and abdomen lighter; there are two whitish spots on each side of the head, one near the base of the upper mandible, the other behind the eye; the secondary quills are white, as in the male.

The trachea of the male Velvet Duck is remarkable for a hollow bony enlargement situated about two-thirds down the tube, made up of expanded tracheal rings, which in the adult bird are firmly ossified together. Upon each side of this enlargement a small muscle passing downwards is inserted upon the inner side of the shaft of the bone, called the merrythought; and the voice is probably influenced by the action of these muscles altering the relative position of this hollow bulb upon the tube. There is also another peculiarity. On making a longitudinal lateral section, as shown in the outside figures below, it will be seen that the inner tube of the trachea, at its upper part, has an aperture on each side by which it communicates freely with the cavity within another bony enlargement, situated immediately below the superior larynx, and brings to mind the laryngeal cavities found in some of the higher animals. A slip of paper is represented as passing through both apertures.



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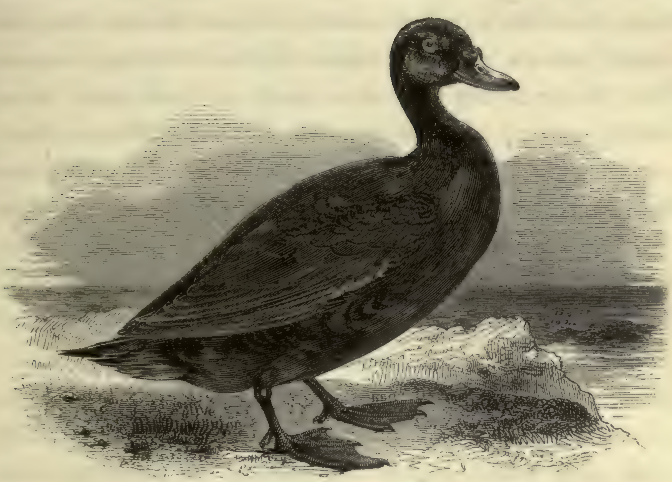


THE COMMON SCOTER.

Oidemia nigra.

Anas	*nigra,*	*The Scoter,*	Penn. Brit. Zool. vol. ii. p. 248.
"	"	" "	Montagu, Ornith. Dict.
"	"	" "	Bewick, Brit. Birds, vol. ii. p. 389.
Oidemia	"	*Black Scoter,*	Flem. Brit. An. p. 119.
"	"	" "	Selby, Brit. Ornith. vol. ii. p. 329.
"	"	" "	Jenyns, Brit. Vert. p. 239.
"	"	" "	Gould, Birds of Europe, pt. xv.
Anas	"	*Canard macreuse,*	Temm. Man. d'Ornith. vol. ii. p. 356.

The Common Scoter is generally considered a winter visiter only, and during that season is to be seen in great numbers on various parts of our coast. They are, however, also to be seen in the summer on the southern coast of England. Richard Dann, Esq., told me he saw flocks in the sea off Dungeness, in the middle of June 1841, and other flocks have been seen on the coast of Dorsetshire. I have occasionally seen here and there a straggling Scoter or two outside the rocks of the Isle of Wight, and in Christchurch Bay in June and July. It is not improbable that these were birds only twelve or fourteen months old, that would remain unable to breed till the following summer. The Scoter is not very often found on fresh-water inland during winter; yet the late Sir Richard C. Hoare, Bart., sent me word, some years ago, that his keeper had shot a Scoter on the ornamental water in the Park at Stourhead, Wiltshire, which is more than twenty miles from the sea, in a straight line, and no such bird had been seen there before. It has also been shot on a pond at Farnham in Hampshire.

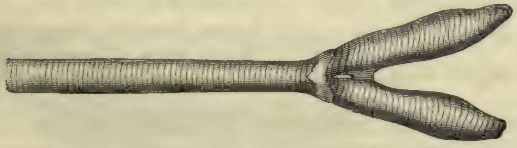
The Scoter feeds almost exclusively on the soft bodies of muscles, and the animals of other bivalve shells, which they obtain by diving, and they approach the shore generally with each flood-tide for the purpose of satisfying their appetite. The flesh of the Scoter is oily, and has a strong fishy taste; it is in consequence, but seldom eaten in this country; but these same qualities are considered a recommendation elsewhere, for being identified with fish, it is allowed by the Romish church to be eaten in Lent, and on fast days; and so great is the demand for it, that many devices are in use on the sea coasts of Catholic countries to obtain these Ducks for the use of the table. One of the modes in practice is thus described in more than one work on ornithology. Advantage is taken of the habits of this Duck by the fishermen on the coast, who, at the ebb-tide, spread their nets horizontally, about two or three feet above the beds of shell-fish, which these birds are observed most to haunt. Upon the return of the tide the Scoters approach in great numbers, and diving for their food, become entangled in the meshes of the floating nets; and in this way it is said that twenty or thirty dozens have been taken in a single tide.

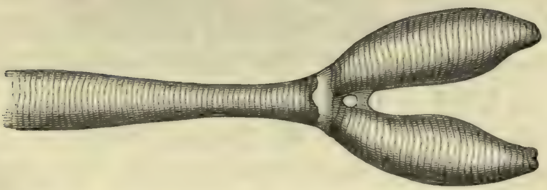
I am indebted to H. L. Long, Esq., of Hampton Lodge, Farnham, for a copy of a French account by M. Hugo, of the mode in which many of these birds are obtained upon the various salt lakes in the vicinity of Martigues, at the mouth of the Rhone. These numerous salt lakes are frequented in winter by large flocks of aquatic birds. With the first appearance of frost the Scoters and other Ducks arrive in numerous small flocks, and a destructive sort of *battue* takes place, in which all who can are induced to participate with great eagerness. About Christmas, when the Scoters have made their appearance, printed bills are posted at Marseilles, Aix, and all the principal places in the vicinity, stating the intended order of attack upon the birds, and the day and hour at which it is to take place. The Mayors of two or three of the principal places make the necessary arrangements; on the eve of the day fixed upon all the shooters are divided into parties, and each has a boat, a pilot, and a commander appointed. The assemblage is large, filling the inns and the lodgings to be had at private houses. In the morning, at the sound of a drum, the embarkation takes place on the lake named for the first attempt. The boats, filled with sportsmen, form an extended circle around the flocks of birds at one part of the lake; the boats then draw in, diminishing the circle by degrees till the crews are within gunshot of the intended victims. At a well-known and preconcerted signal, a partial discharge takes place at the unfortunate birds while swimming on the surface of the water. Many are killed on the spot; those which escape this first fire attempt to save themselves by flight, when a second discharge assails them in the air; many more fall, and with broken wings and loud cries are picked up by the shooters, who divide the spoil, not without many altercations, and return to land.

After a short respite, the birds having again collected together on that or some other neighbouring lake, a second advance takes place in the same manner, and the day is passed in making a succession of attacks, each followed by a retreat for a time to allow the birds to reassemble. A *chasse*, as it is termed, of a somewhat similar character, is performed near Bastia, the capital of Corsica; but in this locality the Scoter is always accompanied by numbers of the Red-throated Diver, which appear to act the part of sentinels outside the flocks of Ducks; and so quick-sighted are these sentinels, and so instantaneously do they dive, and so rapidly do they swim under water, that hundreds of Scoters are killed to one couple of Divers. M. Savi includes the Scoter among the Birds of Italy. M. Vieillot says that the coast of Picardy is covered with them in winter whenever the wind blows from the north, or north-west: and M. Temminck describes it as abundant on other parts of the coast of France, and in Holland. I am not aware that the Scoter has ever been found to breed in this country. The nest is described as formed of grass and other vegetable matter, mixed and lined with a quantity of its own down; the eggs about six in number. These, as figured in the work of M. Thienemann, are of a pale buff colour, tinged with green; two inches six lines in length, by one inch and nine lines in breadth. In reference to the Scoter in Scandinavia, Richard Dann, Esq., sent me word that this Duck frequents the same places, and is very similar in its habits to the Velvet Duck, both being generally found in the same localities. After the female has laid, the males associate in large flocks, and slowly draw towards the coast, where they arrive in October. They are never found on the coast during summer there. Mr. Proctor found the Scoter breeding in Iceland, but it is not common; only two nests were obtained. In the adult male the beak is black; except the central ridge of the upper mandible, which is orange; the irides brown; all the plumage deep black; legs and toes dusky black, the webs darker, or quite black. The whole length nineteen inches. From the carpal joint to the end of the longest quill-feather nine inches; the second quill-feather rather the longest in the wing.

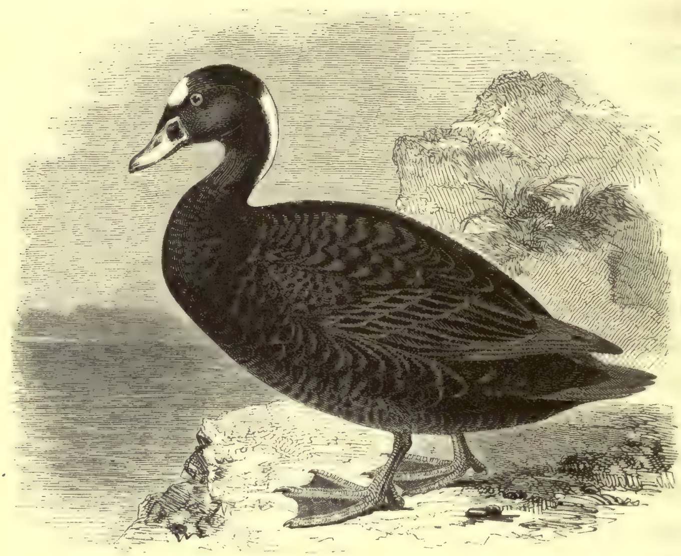
In the female all the upper surface of the body is of a uniform blackish brown, the margins of the wing-coverts a little lighter; cheeks, and sides of the neck paler brown; lower part of the neck, the breast, abdomen, vent, and under tail-coverts, dark brown; legs and toes brown, tinged with green: the interdigital membrane almost black. Young birds of the year, at the approach of their first winter, have the cheeks, chin, sides and front of the neck, dull greyish-white, and the under surface of the body mottled with white and brown.

The trachea of the male Scoter differs from that of the male of any other species among the Ducks, in having no bony enlargement; and differs from that of the female only in having the principal tube, as well as the bronchial tubes rather larger. A portion of both are figured below.





NATATORES. *ANATIDÆ.*



THE SURF SCOTER.

Oidemia perspicillata.

Oidemia perspicillata,	*Surf Scoter,*	Flem. Brit. An. p. 119.
" "	" "	Selby, Brit. Ornith. vol. ii. p. 335.
" "	" "	Jenyns, Brit. Vert. p. 240.
" "	" "	Eyton, Rare Brit. Birds, p. 81.
" "	" "	Gould, Birds of Europe, pt. xiv.
Anas "	*Canard marchand,*	Temm. Man. d'Ornith. vol. ii. p. 853.

According to the testimony of various authors, namely, Dr. Fleming, Sir W. Jardine, Mr. Selby, and M. Temminck, examples of this Duck have occurred on the Islands of Orkney and Shetland; Mr. Gould obtained a specimen that was killed in the Frith of Forth, as noticed in his work above quoted; and Mr. Bartlett, of London, received a recently shot Surf Scoter for preservation, as recorded in the third volume of the Naturalist, page 420, from which bird the measurements here given and some other particulars were derived. M. Vieillot says that this species appears sometimes on the coast of Picardy, and that it lives on fishes and testaceous mollusca, which are obtained by diving. Professor Schinz mentions one killed in Switzerland, in April 1818. Messrs. Meyer and Wolf include this Duck in their pocket volumes of the Birds of Germany; and Professor Nilsson gives a coloured figured of the male in his illustrated Fauna of Scandinavia, in consequence of the occurrence of the species in that country. It is only, however, on the shores of high latitudes in North America that Surf Scoters in any quantity can be observed; and the accounts of Wilson and Mr. Audubon must be referred to for a knowledge of their habits in localities where they are abundant.

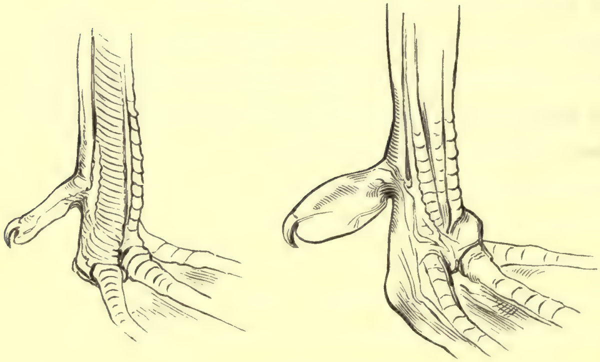
Wilson says, "this Duck is confined to the shores and bays of the sea, particularly where the waves roll over the sandy beach. Their food consists principally of small bivalve shell-fish, spout-fish, and others that lie in the sand near its surface. For these they dive almost constantly, both in the sandy bays and amidst the tumbling surf. They seldom or never visit the salt marshes. They continue on our shores during the winter, and leave us early in May, for their breeding places in the North. Their skins are remarkably strong, and their flesh coarse, tasting of fish. They are common in winter along the whole coast, from the river St. Lawrence to Florida. This species was also found by Captain Cook, at Nootka Sound, on the north-west coast of America."

Mr. Audubon's account furnishes many interesting particulars, and a portion of it is as follows:—"While proceeding towards the sterile country of Labrador, in 1833, on board the Ripley, I found the waters of the Gulf of St. Lawrence alive with Ducks of different species. The nearer we approached the coast, the more numerous did they become; and of the many kinds that presented themselves to our anxious gaze, the Surf Duck was certainly not the least numerous. It is true that in the noble bays of our own coast, in the Sound, between New York and the Hook, on the broader waters of the Chesapeake, and beyond them to the mouths of the Mississippi, I had seen thousands of Surf Ducks; but the numbers that passed the shores of Labrador, bound for the far north, exceeded all my previous conceptions. For more than a week after we had anchored in the lovely harbour of Little Macatina, I had been anxiously searching for the nest of this species, but in vain. At length I found that a few pairs had remained in the neighbourhood, and one morning, while in the company of Captain Emery, searching for the nests of the Red-breasted Merganser, over a vast oozy and treacherous fresh-water marsh, I suddenly started a female Surf Duck from her treasure. We were then about five miles distant from our harbour, from which our party had come in two boats, and fully five and a half miles from the waters of the Gulf of St. Lawrence. The marsh was about three miles in length. The nest was snugly placed amid the tall leaves of a bunch of grass, and raised fully four inches above its roots. It was entirely composed of withered and rotten weeds, the former being circularly arranged over the latter, producing a well rounded cavity, six inches in diameter, by two and a half in depth. The borders of this inner cup were lined with the down of the bird, in the same manner as the Eider Duck's nest, and in it lay five eggs, the smallest number I have ever found in any Duck's nest. They were two inches and two and a half eighths in length, by one inch and five eighths in their greatest breadth; more equally rounded at both ends than usual; the shell perfectly smooth, and of a uniform pale yellowish, or cream colour. I took them on board along with the female, which was shot as she rose from the nest. We saw no male bird near the spot; but in the course of the same day met with several males by themselves, about four miles distant from the marsh, as we were returning to the harbour. This induced me to believe, that, like the Eider and other Ducks that breed in Labrador, the males abandon the females as soon as incubation commences. I regret that, notwithstanding all my further exertions, I did not succeed in discovering more nests or young birds. The female, which was killed as she flew off from the nest, uttered a rough uncooth guttural cry, somewhat resembling that of the Goosander, on similar occasions; and I have never heard any other sound from either sex. The Surf Duck is a powerful swimmer and an expert diver; it is frequently observed fishing at the depth of several fathoms; and it floats buoyantly among the surf or the raging billows, where it seems as unconcerned as if it were on the most tranquil waters. I have never seen this species on any fresh-water lake or river, in any part of the interior, and therefore consider it as truly a marine Duck."

The adult male has the beak orange, with a square patch of black on each side at the base of the upper mandible; irides straw yellow; on the top of the head and on the back of the neck, are two oval patches of white; all the rest of the plumage black; legs and toes orange red, the membranes brownish-black. The whole length twenty-one inches. From the carpal joint to the end of the wing nine inches and a quarter; the first and second primary quill-feathers of equal length, and the longest in the wing.

The female differs from the male in having the plumage of dull brown, which is lightest in colour about the cheeks and under surface of the body; the beak dark olive; the feet greyish-brown. According to the descriptions given, the trachea of the Surf Scoter resembles that of the Velvet Scoter as represented at page 316.

The vignette below represents the difference in the extent of the membrane depending from the hind toe of the two divisions of true Ducks; that on the left side belongs to the first division, or Surface-feeding Ducks; that on the right to the second division, the Oceanic, or Diving Ducks.



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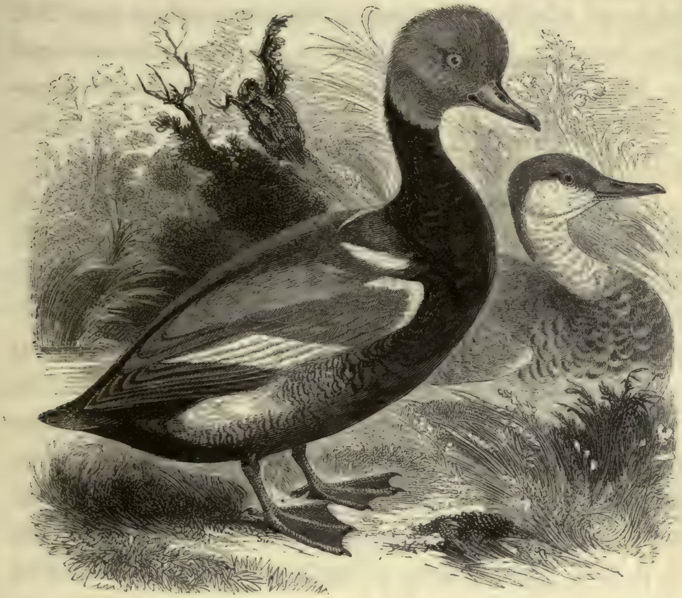

THE RED-CRESTED WHISTLING DUCK.

Fuligula rufina.

Fuligula rufina,	*Red-crested Pochard,*	Selby, Brit. Ornith. vol. ii. p. 350.
,, ,,	,, ,,	Jenyns, Brit. Vert. p. 240.
Mergoides ,,	,, ,,	Eyton, Rare Brit. Birds, p. 77.
Fuligula ,,	,, *Duck,*	Gould, Birds of Europe, pt. vi.
Anas ,,	*Canard Siffleur Huppé,*	Temm. Man. d'Ornith. vol. ii. p. 864.

Fuligula. *Generic Characters.*—Bill not longer than the head, but slightly elevated at the base, depressed towards the tip; sides parallel; both mandibles laminated, lateral edges of the upper mandible enclosing the edges of the under one. Nostrils at a short distance from the base. Wings rather short, pointed. Legs with the middle and outer toes longer than the tarsus, which is flattened laterally; feet large, webbed, the hind toe with a broad depending membrane.

I HAVE followed the example of several modern zoologists in adopting the generic term *Fuligula*, for an extensive series of oceanic Ducks, the general characters and habits of which are noticed in the paragraph at page 298. The necessity for this distinction has been acknowledged by M. Temminck himself, and the grounds for the separation are stated in the note below,* from the 68th No. of the *Planches Coloriés*, Art. 406.

I had the pleasure of first noticing† this handsome Duck as an occasional visiter to this country in January 1826, when a male was shot near Boston, while feeding on fresh-water in company with some Wigeons. Though a well-known species, inhabiting the eastern parts of Europe, it had not previously been recorded to have been killed in England. During the same winter several others were obtained; more than one occurred in the London markets, and were eagerly purchased for collectors. One was secured by Mr. Bartlett, as noticed in the Naturalist, vol. iii. p. 420. Since then a specimen has been killed at Yarmouth, another at Colchester, now in the Museum of the Cambridge Philosophical Society; and the female represented by Mr. Gould, in the Sixth Part of his Birds of Europe, is in the collection of the Hon. W. T. T. Fiennes. This specimen was killed out of a flock of eighteen, on the Thames, near that gentleman's estate at Erith in Kent.

This species has been obtained very recently in Norfolk in January 1844, and at Falmouth in March 1845.

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* "Nous avons cru nécessaire de séparer des canards proprement dits, et de réunir, toutes ces espèces à doigt postérieur garni d'un rudiment de membrane, vu que le squelette de ces oiseaux nous offre des différences marquées et constantes; que leur manière de vivre et le choix des alimens ne sont pas les mêmes que chez les canards à doigt postérieur lisse, et que les caractères faciles à saisir fournissent de très-bons moyens pour établir la différence générique entre ces deux groupes."

† Zoological Journal, vol. ii. page 492.

M. Vieillot says this species has been taken, though rarely, in France. It has been included in two or three Histories of the Birds of Germany. It is mentioned by M. Necker in his published notice of the Birds of Geneva; has been found more than once in different parts of Switzerland and Provence; has been seen at Genoa; and is included by M. Savi, in his Ornithology of Italy. Our countryman Willughby, it will be recollected, obtained this Duck in the market at Rome.* It is stated to be found in Sicily all the year, laying from six to eight greenish-white eggs. It is most abundant during winter, and is considered to come there from the East. The Zoological Society has received specimens from North Africa, sent by Sir Thomas Reade, and it was formerly noticed in Barbary, by Shaw, in his published Travels in that country. It is found in Austria, Hungary, and Turkey. Russian naturalists have observed that it is very common in winter at Bakou, on the Caspian Sea. According to Dr. Latham it inhabits the vast lakes of the desert of Tartary; is sometimes seen on the great lakes lying on the east side of the mountains of the Uralian chain, but not elsewhere in Siberia. Mr. Gould mentions, in his Birds of Europe, that he has received specimens from the Himalaya, and Colonel Sykes includes it among his Birds of the Dukhun, but states that it is rare in that part of India. It has been found in the North Western part of India; B. Hodgson, Esq. includes it in his Birds of Nepal, and Mr. Blyth has obtained it in the vicinity of Calcutta. The food is stated to be shell-fish and aquatic vegetables.

In the adult male the beak is vermilion-red; the nail white; the irides reddish-brown; the whole of the head, and the upper part of the neck all round rich reddish-chestnut, the feathers on the top of the head considerably elongated, forming a conspicuous crest; the back of the neck below, and the upper tail-coverts dark brown; the back, and a portion of the scapularies, wing-coverts, and tertials, yellowish-brown; a white patch on the carpal joint of the wing, and another over the joint; greater coverts ash-brown; wing-primaries and tail-feathers greyish-brown; the secondaries with the outer webs white, forming a speculum; front of the neck, breast, belly, and under tail-coverts rich dark brown; the sides and flanks white; legs and toes vermilion-red, interdigital membrane almost black.

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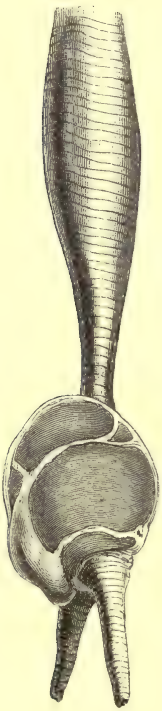
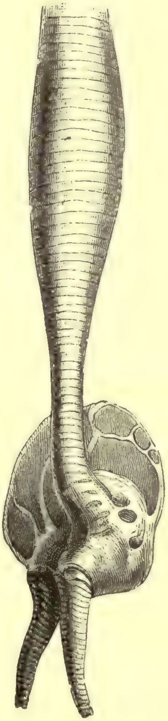
* Willughby, Orn. p. 364.



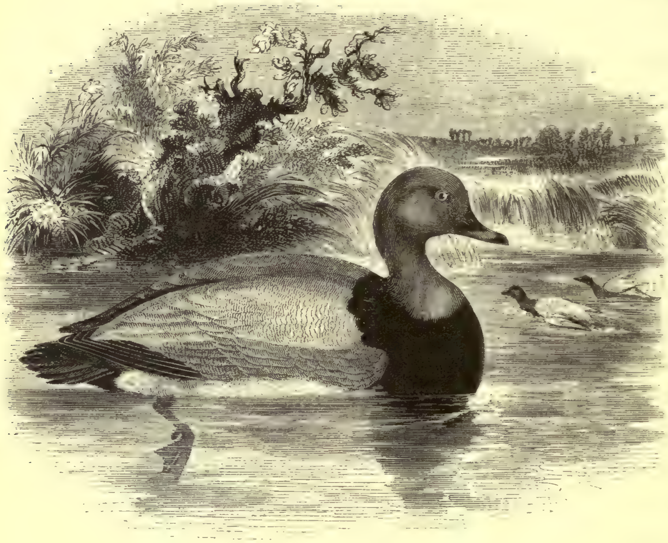


The whole length twenty-two inches. From the carpal joint to the end of the first quill-feather, which is the longest in the wing, ten inches and a half.

The female is without a crest; the top of the head dark brown; cheeks, throat, and sides of the neck greyish-white; upper surface of the body pale rufous-brown; point of the shoulder and the speculum greyish-white; breast reddish-brown; the other parts of the under surface greyish-brown; beak and legs reddish-brown.

The windpipe of the male is about nine inches in length, the tube is narrow in diameter at the middle, and near the end, but enlarged at the commencement and again below the middle, as shown in the representation of the lower half inserted on the opposite page. The labyrinth in the Ducks of this division is composed partly of bone, and partly of membrane. The right and left surface are here shown; the membrane supported by delicate portions of bone diverging from an outer bony ring.

NATATORES. *ANATIDÆ·*



THE POCHARD,

OR DUN BIRD.

Fuligula ferina.

Anas	*ferina,*	*Pochard Duck,*	Penn. Brit. Zool. vol. ii. p. 271.
,,	,,	*The Pochard,*	Montagu, Ornith. Dict.
,,	,,	,, ,,	Bewick, Brit. Birds, vol. ii. p. 369.
Nyroca	,,	,, ,,	Flem. Brit. An. p. 121.
Fuligula	,,	*Red-headed* ,,	Selby, Brit. Ornith. vol. ii. p. 347.
,,	,,	*Common* ,,	Jenyns, Brit. Vert. p. 241.
,,	,,	*Red-headed* ,,	Gould, Birds of Europe, pt. xvii.
Anas	,,	*Canard milouin,*	Temm. Man. d'Ornith. vol. ii. p. 868.

The Pochard, or Dun-bird, for this species is known by various names, as Red-headed Poker, and Red-eyed Poker, from the prevailing colour of the head, and the peculiar colour of the eye, not observed in any other British Duck ;

and *Dos gris*, or Grey-back, in some parts of North America, as we are told by Mr. Audubon; is a winter visiter to this country, appearing about the beginning of October, and leaving us again in the spring to seek, during its breeding-season, higher northern regions.

While here it resorts to inland lakes and rivers, as well as the sea-shore, and though a difficult bird to take in a decoy on account of its shyness and caution, and the facility with which it dives enabling it to get back under water in the pipe, yet, from being very abundant as a species great numbers, according to authorities, are taken every season. Many thousands are sold every winter in one market only in London; and Montagu mentions that the method formerly practised for taking the Pochard, was something similar to that of taking Woodcocks. Poles were erected at the avenues to the decoys, and after a great number of these birds had collected for some time on the pond, to which wild-fowl resort only by day, and go to the neighbouring fens to feed by night, a net was at a given time erected by pulleys to these poles, beneath which a deep pit had previously been dug; and as these birds, like the Woodcocks, go to feed just as it is dark, and are said always to rise against the wind, a whole flock was sometimes taken together in this manner; for if once they strike against the net, they never attempt to return, but flutter down the net till they are received into the pit, from whence they cannot rise, and thus we are told twenty dozen have been taken at one catch.

Dun-birds are, in general, remarkable for the excellence of their flesh, and probably but little inferior to the far-famed Canvass-backed Duck of the United States, which it very closely resembles in the colour of its plumage, but our Dun-bird is the smaller Duck of the two. Dunbirds are best while they feed at the mouths of rivers, and about fresh-water, but when they feed at sea on fishes, crustacea, and mollusca, I have found them coarse and ill flavoured. They feed principally during the night.

When these Ducks are not excited or alarmed, their note is a low whistle, but at other times it is a rough croak. The Dun-bird is not so slender and elegant in form as the Wild Duck, and others of the first division, or more surface-feeding Ducks, but are short in the body, and depressed in form, swimming low in the water, and are observed to be bad walkers on land, from the backward position of their legs; an arrangement of great service to them as swimmers and divers. Rusticus, of Godalming, says that fifty or more have been seen on the piece of water there called the Old Pond, in company with Wild Ducks; from which, however, they always separated on rising. Messrs. Sheppard and Whitear, in their Norfolk Catalogue of Birds, mention, in 1825, that this species breed at Scoulton Mere; and the Rev. Mr. Lubbock sent me word that it has also bred there of late years. Mr. Hewitson says a small number of the Pochard remain during the summer months, and breed on the borders of the inland meres, so numerous in many parts of Holland. The nest is placed amongst the rushes, or other coarse herbage abounding in those situations. The eggs vary in number from ten to twelve. The specimen figured in Mr. Hewitson's work on the eggs of our British Birds, is of a buffy-white colour, two inches in length, and one inch and five-eighths in breadth. I have seen a Duck which had all the appearance of having been bred between the Pochard and the Ferruginous Duck, the species next in succession. M. Vieillot says this species appears in France at two periods of the year, namely, in October on its way south; and in April on its return; but has been killed in France in the month of July. It is taken in Provence and Italy, and is recorded to have been found as far south as Egypt.

North of England, it is found at the Orkney and Shetland Isles, in Denmark and Sweden; but neither Mr. Hewitson nor Mr. Dann mention having seen this Duck either in Norway or Lapland. It goes, perhaps in its migration, more to the eastward, as it is said to be abundant in Russia and the north of Germany. Mr. Blyth has obtained it at Calcutta.

The Pochard, or Dun-bird, is a common Duck in America, dispersed and breeding over the fur countries in summer, some of them in winter going as far south as Carolina and Louisiana.

The adult male has the bill black at the point and the base; the intermediate portion pale blue, forming a broad transverse band; the irides red; the head and upper part of the neck all round rich chestnut-red; the neck below deep black; back, scapulars, tertials, and wing-coverts, freckled over with minute grey specks and lines, on a ground of white; primaries and secondaries nearly uniform grey; the primaries ending in dark brown; the secondaries narrowly tipped with white; rump and upper tail-coverts nearly black; tail-feathers uniform greyish-brown; breast, sides, and belly to the vent, greyish-white; produced by minute grey marks, on a white ground; under tail-coverts black; legs and toes bluish-grey, the intervening membranes bluish-black.

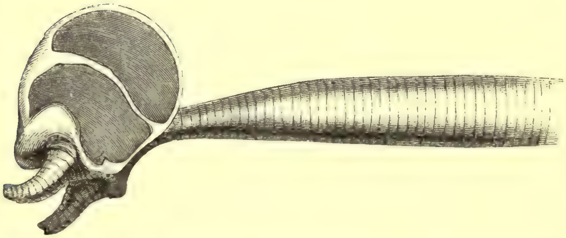
The whole length nineteen inches and a half. From the point of the wing to the end of the first quill-feather, which is the longest, eight inches and a quarter.

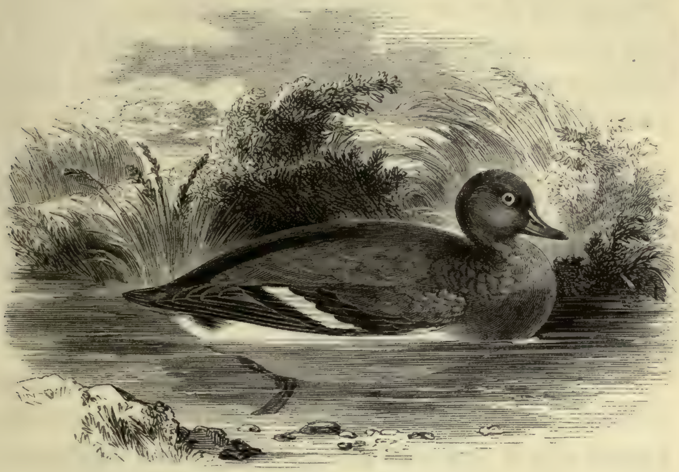
The adult female has the bill black; the irides brown;

head, and all the back of the neck, dusky greyish-brown; back and wings darker grey than that of the males; quill-feathers like those of the males; no bright-coloured speculum in either sex; chin and throat pale greyish-brown; lower part of the neck in front dark brown; all the under surface of the body uniform dull greyish-white; under tail-coverts dark grey; legs and feet as in the male.

Young males at first resemble the females, obtaining some change with the feathers of their first autumn moult; the change in the colour of the feather going on by slow degrees afterwards. As late as the middle of January, young males of the previous summer had not attained their perfect plumage; and Dr. Fleming mentions that the black on the breast of the young males does not make its appearance during the first year.

The trachea of the male is about eight inches in length, the diameter of the tube large, tapering suddenly towards the bottom; the labyrinthic tympanum of beautiful form; the bronchial tubes short. The engraving below represents the surface opposed to the left side of the bird.





THE FERRUGINOUS DUCK,

AND WHITE-EYED DUCK.

Fuligula nyroca.

Anas ferruginea,	*Red Duck,*	Penn. Brit. Zool. vol. ii. p. 272.
,, ,,	*Ferruginous Duck,*	Montagu, Ornith. Dict. and Suppt.
,, *nyroca,*	*Castaneous* ,,	Bewick, Brit. Birds, vol. ii. p. 332.
Nyroca leucopthalmos,	*White-eyed* ,,	Flem. Brit. An. p. 121.
Fuligula nyroca,	*Nyroca Pochard,*	Selby, Brit. Ornith. vol. ii. p. 354.
,, ,,	,, ,,	Jenyns, Brit. Vert. p. 242.
,, ,,	*White-eyed Duck,*	Gould, Birds of Europe, pt. v.
Anas leucopthalmos,	*Canard à iris blanc,*	Temm. Man. d'Ornith. vol. ii. p. 876.

Though somewhat in colour resembling the Pochard or Dun-bird last described, the Ferruginous Duck is at once distinguished from it by its smaller size, its dark brown back, and by the ends of its secondary quill-feathers being white; forming a single white bar on the wing at all ages. Like the Pochard, the Ferruginous Duck is a winter visiter to this country, and but few are annually taken. It has been killed in Cambridgeshire and in Norfolk, and the flesh is reported to be excellent. Mr. Bullock obtained specimens in the London market; and I have seen examples of all ages that were procured in the London market; these are generally received from the eastern counties, between the Thames and the Humber, but two were killed near Oxford, in the winter of 1832, and another pair also during the last winter, for a notice of which I am indebted to W. Borrer, Esq. jun. A hybrid between this species and the Pochard has been referred to.

This species is occasionally sent to London alive from Holland, where it is sometimes caught in decoys. M. Vieillot says it is a rare bird in France, and only seen in winter. It has been taken in Switzerland, Provence, and Italy; it is common throughout the year at Corfu, in Crete, and in Sicily, but is only observed at Malta in winter, and is stated to go as far south as North Africa and Egypt. It is the *Sarcelle d'Egypt* of Buffon.

The Ferruginous Duck is recorded to have been taken in Persia; and specimens have been received from North Western India, the Himalaya Mountains, Thibet, Nepal, and Calcutta.

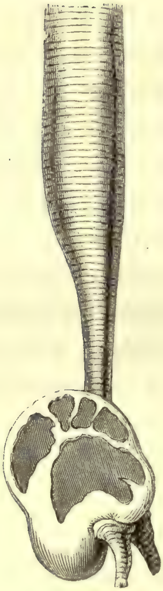
It appears to be a resident in the North of Germany from October to March. Dr. Latham says it inhabits Russia, and is frequent about the Don. It was formerly said to have been found in the rivers of Sweden; and Pennant, in his Arctic Zoology, mentions having had a specimen sent him from Denmark; but this species is not included by Professor Nilsson at the present time either in his Ornithology of Sweden, or in his Fauna of Scandinavia. It is, however, included among the Birds of Iceland, by F. Faber, who published in 1822. According to M. Temminck, this Duck feeds on insects, small frogs, aquatic plants, and their seeds; and makes its nest near rivers and marshes, laying nine or ten white eggs, slightly tinged with green. The egg, as figured by Dr. Thienemann, measures two inches and one eighth in length, by one inch and a half in breadth.

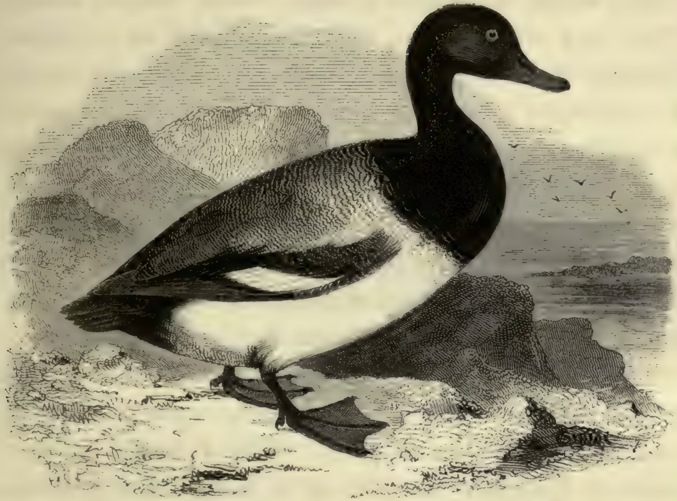
In the adult male the bill is bluish-black; the irides white; the whole of the head, the neck all round, to the upper part of the breast, and the sides, rich chestnut-brown; round the middle of the neck a narrow ring, rather darker in colour; the whole of the back and wing-coverts umber-brown, with a tinge of green; primary quill-feathers dusky black, part of the inner webs white; the secondaries white, forming a bar of that colour on the wing, but the extreme ends are black; tail-feathers brownish-black; on the chin a small triangular spot of white; lower part of the breast and the belly white; the flanks brown; vent greyish-brown; under tail-coverts white; legs and toes bluish-black, the membranes darker. The whole length sixteen inches; the wing, from the carpal joint seven inches and three-quarters. The first quill-feather the longest in the wing.

In the female the irides are not quite white; the whole head and neck deep reddish-brown, darker in tint, and not so rich in appearance as the same parts in the male; wings like those of the male; lower breast and belly dingy white; the female bird is rather smaller than the male.

The young bird of the year, during its first winter, is still smaller than the adult female, and has also still less of the red chestnut tint; the back, wings, and neck are of two shades of brown, the edges of the feathers being of the lighter colour; breast and belly dull brownish-grey.

The trachea of the male is about six inches in length; the tube is small at both ends, but enlarged in the middle; the portion represented below is of the natural size.





THE SCAUP DUCK.

Fuligula marila.

Anas marila,	*Scaup Duck,*	Penn. Brit. Zool. vol. ii. p. 251.
" "	" "	Montagu, Ornith. Dict.
" "	" "	Bewick, Brit. Birds, vol. ii. p. 355.
Nyroca "	" "	Flem. Brit. An. p. 122.
Fuligula "	" *Pochard,*	Selby, Brit. Ornith. vol. ii. p. 354.
" "	" "	Jenyns, Brit. Vert. p. 243.
" "	" "	Gould, Birds of Europe, pt. xix.
Anas "	*Canard milouinan,*	Temm. Man. d'Ornith. vol. ii. p. 865.

The Scaup Duck is a winter visiter to this country, and rather a late one, seldom making its appearance till the end of October, or the beginning of November, about which time, particularly if the weather be rough and cold, they arrive in small flocks on various parts of the coast, and at the mouths of rivers, but do not very often visit the waters of inland counties. They appear to prefer low, flat, muddy, or oozy shores, and are numerous throughout the winter months on the coasts of Hampshire and Dorsetshire, where, in company with Tufted Ducks, Golden Eyes, and other species, they are pursued by wild-fowl-shooters in their gun-punts, and also occasionally caught by fishermen in upright nets fixed in curving lines, on perpendicular stakes in shallow bays. The Scaup Duck, however, feeding on small fish, mollusca, aquatic insects, and marine plants, is by no means in request for the table, as its flesh is generally coarse, dark in colour and fishy in flavour. The greater part of its food is obtained by diving, at which it is very expert, but like most of the short-winged diving-ducks it gets upon wing from the surface of the water but slowly, prefers rising against the wind, and flies at a moderate pace. What it wants, however, in speed, it appears to make up in caution, and it is considered a difficult bird to approach. Its name of Scaup Duck, is, according to Willughby, derived from the bird feeding among broken shells, which are called scaup. Beds of oysters and muscles are in the north called Oyster scawp, and muscle scawp, and from feeding on these shell covered banks, the bird has obtained the name of Scaup Duck.

Colonel Montagu, who kept both sexes of this species alive in confinement many years, observed "that they associated together apart from all other Ducks, made the same grunting noise, and both had the same singular toss of the head, attended with an opening of the bill, which, in the spring, is continued for a considerable time while swimming and sporting on the water. This singular gesture would be sufficient to identify the species were all other distinctions wanting. In the case of one female which died, Montagu mentions that the cause of death appeared to be in the lungs, and in the membrane that separates them from the other viscera; this last was much thickened, and all the cavity within was covered with *mucor*, or blue mould."

"It is a most curious circumstance," this writer adds, "to find this vegetable production growing within a living animal, and shows that where air is pervious, mould will be found to obtain, if it meets with sufficient moisture, and a place congenial to vegetation. Now the fact is, that the part on which this vegetable was growing was decayed, and had no longer in itself a living principle; the dead part, therefore, became the proper pabulum of the invisible seeds of the *mucor*, transmitted by the air in respiration; and thus nature carries on all her works immutably under every possible variation of circumstance. It would, indeed, be impossible for such to vegetate on a living body, being incompatible with vitality, and we may be assured that decay must take place before this minute vegetable can make a lodgment to aid in the great change of decomposition. Even with inanimate bodies the appearance of mould or any species of fungi is a sure presage of partial decay and decomposition."

M. De Selys Longchamps has found a similar growth lining the air-cells in the lungs of an Eider Duck; * and Mr. Owen described the same appearance as found by himself in the bronchial tubes of a Flamingo.† References to descriptions and figures of various singular vegetable growths on insects, will be found in the first Part of the third volume of the Transactions of the Entomological Society of London; and those acquainted with Edwards' Gleanings in Natural History will remember his coloured representations of vegetating caterpillars, and vegetating wasps, in the plates numbered 335 and 336, published many years since.

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* Annals of Natural History, vol. viii. page 229.

† Proceedings of the Zoological Society for 1832, page 142.

In spring, the Scaup Ducks depart to countries north of the Orkney and Shetland Islands to breed ; and I am only acquainted with one record of their producing their young in Scotland, which is that by Mr. Selby, in his notice of the birds found when exploring Sutherlandshire in the month of June 1834. "A single female was shot by Sir William Jardine, in a small loch between Loch Hope and Eriboll ; she was attended by a young one, which unfortunately escaped among the reeds. This is the first instance of its breeding in Britain having been ascertained that I am aware of."

Of this species in Scandinavia, Richard Dann, Esq., has supplied me with the following note :—"The Scaup Duck, in its migration south, does not make its appearance on the western coast of Europe until late in the winter, and then only in comparatively small numbers ; its migration appears to be more southerly than westerly. It breeds on the swampy lakes towards the north of the Bothnian Gulph, near Lulea, in considerable numbers. I have shot the young there previously to their being able to fly. I have seen them about Gellivara and Lulea in small numbers. Being a diving-duck they avoid the reeds, and keep out in the open water. They are, also, tolerably numerous in the Dofre Fiell mountains, frequenting and breeding near swampy solitary lakes as high as the birch-wood grows. At whatever season the Scaup Duck is shot, it is generally very fat and heavy. The eggs are five or six in number.

Mr. Procter sent me word that the Scaup Duck is a very common species in Iceland, where it breeds either among the aquatic herbage, or the large stones, near the edge of fresh water, making little or no nest, but a quantity of down covering the eggs, which are from five to eight in number: an egg brought from Iceland by Mr. Procter, and figured in Mr. Hewitson's work, is of a uniform clay brown colour, two inches and three-eighths in length, by one inch and five-eighths in breadth.

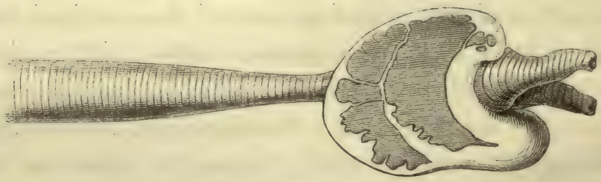
Mr. Charles Drosier, who gives, in the fourth volume of the Naturalist, a brief sketch of a voyage across the North and Baltic seas, says, that large flocks of Scaup Ducks were seen streaming over the water, as the vessel entered the gulf of Finland, in the month of August, and others were seen on the shore. They were known to be common in Russia, Siberia, and southwards to Germany; and M. Temminck mentions that they are abundant in Holland. In France, they are mostly confined to the coast, and the Scaup Duck is included among the birds of Switzerland and Italy. It is observed in Sicily during winter.

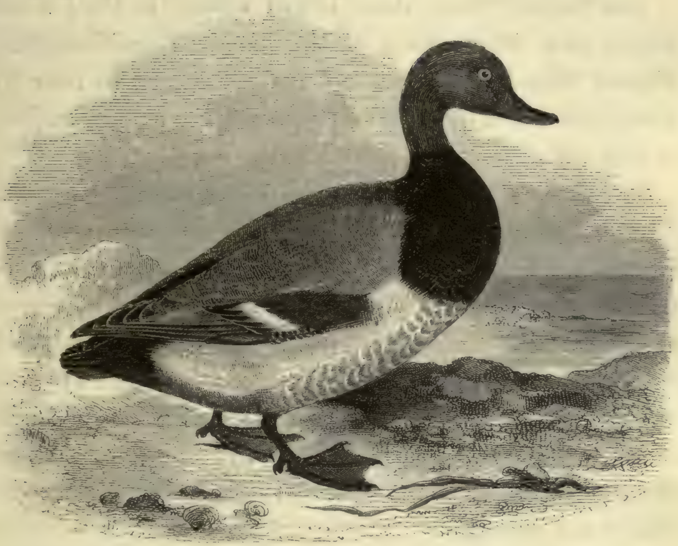
This species is common in North America, from the fur-countries to the southern states of the Union, depending on the season of the year.

In the adult male the bill is pale blue; in form, narrowest at the base, dilated considerably towards the point, being nearly one third wider; the nail curved and black; the irides yellow; the head and the neck all round, as well as the upper part of the breast and back, black; the cheeks and sides of the neck glossed with rich green; the rest of the back and the scapulars spotted and striped with broadish black lines, on a ground of white, with considerable intervals between the lines; the wing-coverts of much darker grey than the back; the wing-primaries brownish-black; the secondaries white, forming the speculum, but tipped with black; tertials as dark a grey as the smaller wing-coverts; rump and upper tail-coverts black; tail-feathers brownish-black; breast, sides below the wing, and the flanks pure white; the portion of the belly behind the legs marked with greyish lines, on a ground of white; under tail-coverts black; legs and toes bluish-black, the intervening membranes darker. The whole length eighteen inches. From the carpal joint to the end of the wing nine inches; the first and second quill-feathers very nearly equal in length, but the first rather the longer of the two.

The head and neck of the female is of a dark brown colour; the beak lead colour; around the base of the beak in old females, a broad band of white; the lower part of the neck and breast dark brown; the back and scapulars light grey, transversely barred with irregular dusky lines; the greater quill-feathers dark brown; the secondaries white, tipped with dark brown; the tail-feathers also dark brown; the belly dirty white; under tail-coverts dusky black; the legs and toes dusky blue, the webs black. The female is nearly as large as the male, and from the broad white band occasionally to be found around the base of the bill, has been figured and described as a distinct species under various names.

Young birds resemble the females, generally, but the light colour on the back is varied with brown spots.





THE AMERICAN SCAUP.

Fuligula mariloides.

Fuligula mariloides, *American Scaup,* VIGORS, Zoology of Captain Beechey's Voyage, page 31, note.

I AM indebted to the kindness of my friend, Mr. Henry Doubleday, for the opportunity of figuring and describing a Duck very closely allied to our Scaup; differing from it, indeed, so little, that it has been doubted, by good authority, whether it ought to be considered otherwise than as a variety only. Since this specimen has been in my possession, for my use in this work, it has been examined in comparison with the true Scaup by several ornithological friends, who believe, with Mr. Doubleday and myself, that it is entitled to be described as distinct, and I have, therefore, applied to it the specific term *mariloides*, as mentioned by the late Mr. Vigors, in a quotation to be hereafter noticed.

The British Scaup Duck is well known in the United States, and the accounts of the American ornithologists, Messrs. Wilson, Audubon, and Nuttall, appear to refer to the species which immediately precedes the present subject in this work.

Sir W. Jardine, writing of the Scaup Duck, observes, " In the Northern Zoology, the American specimens are said to be smaller, but no other distinctions could be perceived ; a single northern specimen which I possess, agrees nearly with the dimensions given of the smaller kind, and I can see no other important difference ; but there are also larger-sized birds, known to the natives by the addition of *keetchee* to the name, and I think it probable that two birds may be here confused, which future observations will allow us to separate."

Mr. Audubon, in his last work on the Birds of America, which is but recently concluded, admits *marila* and *mariloides* as distinct species.

Dr. Richardson's remarks on the Scaup Duck in the Fauna Boreali-Americana, are as follows :—" Our specimens are smaller than English ones killed in the winter, the head, bill, wings, and legs, in particular, being proportionally smaller, and the bill less high at the base.—A *variety*, nearly corresponding with the English one in size, is also found in the fur-countries, where it is distinguished by the epithet of keetchee (bigger) : but an attentive examination of a number of specimens, disclosed no peculiarities which could characterise it as a distinct species, except its size. The undulated markings on the back and wings are darker, and less extended than in the English specimens." Mr. Swainson adds in a note at the bottom of the page, "one of these varieties (if such they be) is common upon the lakes of Mexico."

The late Mr. Vigors, who wrote the ornithological portion of the volume published on the various subjects in Zoology obtained during a voyage to the Pacific and Behring's Straits, performed in H.M.S. Blossom, under the command of Captain F. W. Beechey, appends the following remarks to his notice of our Scaup Duck at page 31 :—

"Several specimens of a bird nearly allied to this species, if not the same, were brought home by the expedition. They uniformly differ from the typical *Fuligula marila* in their smaller size ; in the black colour on the breast being less intense and defined ; in the undulating white markings being less diffused over the scapulars and back, and being wanting almost entirely on the wing-coverts. Dr. Richardson, whose judgment on these points, and whose experience respecting the birds of the Arctic Regions, entitles him to every confidence, is inclined to consider these birds but as a variety of the European species. Following his opinion, I refrain from describing them as separate. It is, however, to be observed, that the true *Fuligula marila* is found in North America, and there is less reason to believe the birds alluded to above to be varieties resulting from climate or locality. Should the species prove to be distinct, the specific name of *mariloides*, which has been suggested by Dr. Richardson, would be appropriate."

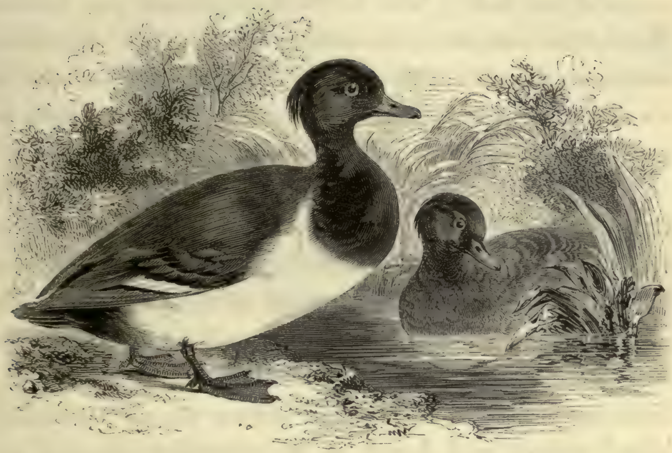
I have not been able to find Dr. Richardson's suggestion of the name *mariloides*, (Scaup-like,) except in the quotation here made, and examination of more examples of the bird, than the single one here figured, may be considered necessary to decide that this Duck is distinct from the Scaup Duck. I have, however, adopted the name provisionally.

The bill is blue, equal in breadth throughout, the sides being parallel; the irides yellow; head, cheeks, and upper part of the neck all round rich orleans plum-colour, but with more of red than purple; lower part of the neck, and upper part of the breast, jet black; all the back, scapulars, small wing-coverts, and tertials, one uniform tint, produced by fine black transverse lines on a ground colour of greyish-white; greater wing-coverts black; wing primaries brownish-black; secondaries white, forming the speculum, and tipped with black; rump and upper tail-coverts nearly black; tail-feathers dark brownish-black; the sides below the wings, and the flanks, covered with fine grey lines, on a ground of white: lower part of the breast and the belly mottled with pale greyish-brown and white; vent dark grey, almost as black as the under tail-coverts; feet like the beak, much smaller than these parts in the true Scaup, and darker in colour, being of a more uniform bluish-black.

In the figures given, great care has been taken to present the true relative appearance of the two birds.

I only know of this one example found in England, which was purchased in Leadenhall market a few winters since. The form of the trachea is unknown to me, and not possessing any measurements taken before the bird was preserved, I refrain from mentioning those which may not exist in a state of nature.

NATATORES. *ANATIDÆ.*



THE TUFTED DUCK.

Fuligula Cristata.

Anas fuligula,	*Tufted Duck,*	Penn. Brit. Zool. vol. ii. p. 249.
„ „	„ „	Montagu, Ornith. Dict.
„ „	„ „	Bewick, Brit. Birds, vol. ii. p. 386.
Nyroca „	„ „	Flem. Brit. An. p. 122.
Fuligula cristata,	„ *Pochard,*	Selby, Brit. Ornith. vol. ii. p. 357.
„ „	„ „	Jenyns, Brit. Vert. p. 244.
„ „	„ *Duck,*	Gould, Birds of Europe, pt. xii.
Anas fuligula,	*Canard morillon,*	Temm. Man. d'Ornith. vol. ii. p. 873.

The Tufted Duck is a constant and well-known winter visiter to this country, frequenting our sea-coasts, estuaries and lakes, where it generally remains till March. It is frequently seen in company with the Pochard, the Scaup, the Golden Eye, and other oceanic Ducks on our shores, but, occasionally, also in small parties, and sometimes in pairs only. It is a plump and short bird, depressed in form, swimming low in the water; and though it frequents our rivers and other fresh-waters in considerable numbers, it is considered a difficult Duck to take in a decoy on account of the facility with which it dives, and gets back in the pipe towards the open entrance and the pool. Its food is similar to that of the Scaup Duck, but, unlike that species, its flesh is generally excellent, so much so, that from its goodness this bird is sometimes called the Black Wigeon.

Tufted Ducks bred in confinement in the ponds at the Gardens of the Zoological Society, during the summer of 1839-40, and 41, and again in 1845 ; but I do not remember to have met with any record of their breeding in a wild state in Britain. The egg figured by Mr. Hewitson was obtained from Holland, where a few pairs of these birds are scattered during the season among the many inland waters, and breed on their borders amongst the thick cover which generally skirts them. They lay from eight to ten eggs, in shape rather pointed at one end, of a pale buff colour, tinged with green; measuring two inches and one-eighth in length, by one inch and three-eighths in width.

Besides being found generally over England, even to the southern shores during winter, it is also found along the eastern coast of Ireland, but leaves both countries, and also Scotland, in spring, for higher northern latitudes. Faber includes it among the birds of Iceland, but it does not appear to go farther to the westward. The Tufted Duck is not found in North America, though sometimes so stated. Mr. Richard Dann, says, " this Duck is by no means common either in Norway or Sweden. I have met with it in the neighbourhood of Lulea, on the Bothnian Gulf, where it breeds; and in spring it appears on the coast and on the adjacent lakes and rivers in the south of Sweden in small numbers." Linnæus in his Tour mentions having seen this species at Lycksele in Lapland; it is also the Lapmarck Duck of Pennant's Arctic Zoology, and is found in Russia.

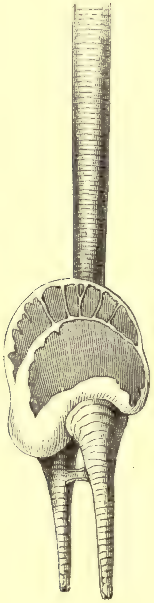
During winter it visits France, Germany, Switzerland, Provence, Italy, and other southern states. It is found in Corfu and in Sicily, but is rare at Malta. Mr. Drummond says it is very numerous at Biserta near Tunis. The Zoological Society have received specimens from Trebizond. The Russian naturalists found it was common in the vicinity of the Caucasus in winter. Mr. Gould mentions having received examples from the Black Sea, Northern India, and the Himalaya. Colonel Sykes includes it among the birds of the Dukhun; B. Hodgson Esq. includes it in his Birds of Nepal, Mr. Blyth has obtained it at Calcutta, it is found in China, and M. Temminck says that specimens sent from Japan do not differ from those obtained in Europe.

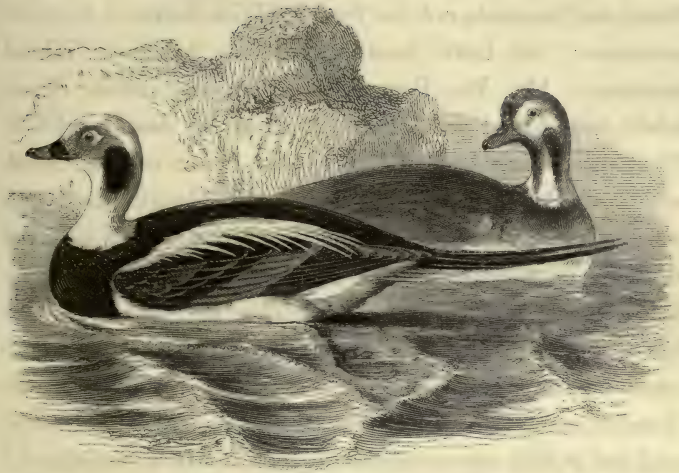
The adult male has the bill pale blue, except the nail, which is black; in form nearly parallel, or but little dilated towards the point; the irides brilliant golden yellow; the head, the whole of the neck, the back, rump, tail and wings black, except a small portion of each of the secondaries of the wing, which is white, forming a white bar, or speculum, but tipped with black; the sides of the head, behind and below the eyes, are tinged with purple; the occipital feathers considerably elongated, forming a crest or tuft, from which the bird derives its name; at the chin a small triangular spot of white; breast, belly, sides, and flanks, pure white; vent, and under tail-coverts black; legs and toes dark blue, the webs black. The whole length of the bird seventeen inches; of the wing from the carpal joint to the end eight inches; the first and second quill-feathers nearly equal in length.

The female is dark brown on all those parts which in the old male are black; the white of the under surface of the body less pure in colour, being tinged with grey, or pale ash-brown; the speculum of the wing white, as in the male.

I have seen a dead female that was known to be old, with the feathers at the base of the upper mandible speckled with white, like the adult female of the Scaup; and with some elongation of the occipital feathers.

The trachea in this species is about seven inches long, the tube somewhat larger at the upper end, below that of nearly equal diameter throughout; the figure underneath shows the form of the tympanum.





THE LONG-TAILED DUCK.

Fuligula glacialis.

Anas	*glacialis,*	*Long-tailed*	*Duck,*	PENN. Brit. Zool. vol. ii. p. 268.
"	"	"	"	MONTAGU, Ornith. Dict.
"	"	"	"	BEWICK, Brit. Birds, vol. ii. p. 375.
Clangula	"	"	"	FLEM. Brit. An. p. 121.
Harelda	"	"	*Hareld,*	SELBY, Brit. Ornith. vol. ii. p. 363.
"	"	"	"	JENYNS, Brit. Vert. p. 247.
"	"	"	*Duck,*	GOULD, Birds of Europe, pt. vii.
Anas	"	*Canard de Miclon,*		TEMM. Man. d'Ornith. vol. ii. p. 860.

THIS beautiful species, remarkable for great diversity in the appearance of its plumage, depending on age, sex, or the season of the year, is another winter visiter to the British shores, and that, too, only in small numbers, except the weather is severe; for this bird remains in the north as long as any surface of water remains unfrozen. The specimens obtained in this country are also, for the most part, young birds of the previous season, which are observed generally to take a wider range than those of greater experience. These Ducks are most frequently found on the coast, not far from land, in sheltered bays, or estuaries; but have been occasionally taken in inland counties. Mr. W. Borrer, jun. sent me notice of an adult male killed in Huntingdonshire, in January 1838. This species has been killed a few times on the south coast of Devonshire; and Charles Prideaux Esq. who resides near Kingsbridge, sent me a notice with a coloured drawing of a young bird killed in the estuary at Kingsbridge, late in December last. This bird has also been killed on the coast of Dorsetshire. I have more than once obtained young birds in their first winter in the London markets at a low price, being sometimes unknown, and not at that age attractive in colour. It is considered a rare bird, but has been killed on the coasts of Kent, Essex, Suffolk, and Norfolk. I saw a very recently killed adult specimen in November 1843.

Of this bird, on the other side of the Channel, M. Temminck says, that it appears rather often on the coast of Holland, and occasionally visits the large lakes of Germany. M. Vieillot says that it is rare on the coast of France. According to M. Schinz it has been obtained two or three times on the large lakes of Switzerland. A young bird has been taken at Naples; and in November 1824, a young bird was taken near Pisa; this species is, therefore, included by M. Savi, in his Birds of Italy.

To return to our own country, Mr. Selby notices the Long-tailed Duck as a winter visitant to the shores of Durham and Northumberland; Mr. Heysham has obtained it on the west coast of Cumberland; and Mr. W. Thompson mentions having procured specimens four winters in succession from Belfast Bay.

Mr. Robert Dunn, in his useful little book, says, "this species, which is there called 'Calloo,' is very plentiful both in Orkney and Shetland, arriving about the middle of October, and departing again in March. It is to be met with in all the inlets or voes, generally in large flocks, never far from the land, feeding upon small shell-fish and star-fish. When on the wing it utters a musical cry, something like 'calloo,' which may be heard to a great distance; from this cry it derives its provincial name."

The Long-tailed Duck is well known in Denmark, and among its numerous islands. Mr. W. C. Hewitson, in his work on the eggs of our British Birds, says, "we met with many whilst in Norway; and although those which we shot and dissected had every appearance of being shortly about to breed, yet they were always in flocks, roving from place to place, and apparently unattached to any particular spot; sometimes sweeping past, within a few yards of us, with great rapidity, uttering their strikingly-wild and most interesting cries. Several eggs of this bird were brought home by the officers of the Arctic expeditions; for the one figured I am indebted to the liberality of my friend, Mr. G. C. Atkinson, who, during an excursion in Iceland, had the good fortune to meet with a nest of the Long-tailed Duck; it was placed near the margin of a small lake, and lined with the down of the female; the eggs were six in number, but would most probably have been increased to ten or twelve, the usual number of this tribe of birds." Mr. Procter, who also visited Ireland, sent me word that he found this Duck rather common there, making its nest generally among low bushes, by the edge of the fresh-water; the nest, composed of a few stems of grass, and well lined with down; the eggs, from six to ten in number; in one instance twelve eggs were found in one nest. The eggs are of a pale greenish white, with a tinge of buff colour; the length two inches two lines, by one inch and a half in breadth. These birds are expert divers, feeding in shallow water on mollusca, crustacea, and marine insects. In the stomachs of two examined by myself, I found the remains of our common mussel and shrimps. The flesh of this species is coarse, hard, and fishy.

This Duck is found among the Faroe Islands; and the notes of Richard Dann, Esq. in reference to this species in Scandinavia, are as follows:—"The Long-tailed Ducks are very numerous on the coasts of Norway and Sweden during the winter, but are seen in greatest numbers off the coast of Scona. Towards the middle of March they begin to draw north, and by the latter end of May appear in vast numbers on the streams and lakes in the mountain-range which divides Finmark from Swedish Lapland. As the season advances they take themselves to the more elevated and smaller lakes, but in Lapland are not generally found within the range of the dwarf-birch. I have seen great numbers on the Calix lakes. In the Dofre Fiell, a few straggling pairs make their appearance and breed. They arrived the last week in May, on the lakes and swamps within the range of the birch, and continued to increase in numbers until the 14th of June, when I lost sight of them on the lakes where they had been most abundant. On ascending, however, to the small lakes in the valleys still higher up the mountains, and at an elevation where the creeping-birch and dwarf-willow can only vegetate, I again found them in pairs the last week in June; the ice had not then entirely disappeared on these lakes. In July, I again lost sight of the females, but frequently found, and shot the males in the most elevated lakes and small pools in the snow-mountains. Those I shot were filled with the larvæ of aquatic insects. They, undoubtedly, breed in the Dofre Fiell. I saw one night as many as twenty males in a flock fly by. I was not fortunate enough to find the nest, but got specimens throughout the whole summer."

This Duck is abundant in Russia, and in summer visits Nova Zembla and Spitzbergen. In reference to its high geographical range, its most common name in northern countries is the Arctic Duck. The Long-tailed Duck was found by our Arctic voyagers at Greenland and as far as the North Georgian Isles. It was also particularly noticed by Dr. Richardson, Captain James Ross, and Mr. King. The first coloured representations of this species, in two states of plumage, are, probably, those of our countrymen, Edwards, plates 156 and 280, both taken from male birds, the first brought from Hudson's Bay, in summer plumage: the second from Newfoundland, in the plumage of winter.

It is well known in North America and the United States; its habits are detailed by the Ornithologists of that country, Messrs. Wilson, Audubon, and Nuttall, and it is stated to have been found in winter as far south as Carolina. Mr. Audubon says, "in the course of one of my rambles along the borders of a large fresh-water lake, near Bras d'or, in Labrador, on the 28th of July, 1833, I was delighted by the sight of several young broods of this species of Duck, all carefully attended to by their anxious and watchful mothers. Not a male bird was on the lake, which was fully two miles distant from the sea, and I concluded that in this species, as in many others, the males abandon the females after incubation has commenced." Both sexes are active, noisy, and restless.

The adult male in winter has the nail, and the basal half of the bill black, the intermediate portion pale reddish-brown; the irides hazel; the cheeks and ear-coverts, including the space round the eye, brownish-buff; below this on each side of the neck an oval patch of dark brown, inclining to chestnut-brown at the lower margin; forehead, top of the head, back, and front of the neck, and the lower part of the neck all round, below the dark brown patch, pure white; the middle line of the back, the rump, and the elongated tail-feathers nearly black; scapulars, tertials, and short outside tail-feathers white; wing-coverts and primaries dark brownish-black; the secondaries reddish-brown; the whole of the breast black; belly, sides, flanks, vent, and under tail coverts white; legs and toes pale bluish-lead colour, the webs almost black. The whole length, without including the elongated tail-feathers, seventeen inches: to the end of the long tail-feathers twenty-two to twenty-four inches; from the carpal joint of the wing to end of the longest primary nine inches; the first and second quill-feathers nearly equal and the longest in the wing.

The winter plumage is generally perfected by the middle of October: the summer plumage is assumed by the end of May, and at that time only the space around the eye is pale buff, mixed with a little white; all the other parts of the head, neck, back, wings, and breast black; the scapulars and tertials black, each feather with a broad edge of rufous-brown; belly, and under surface of the body white, as in winter; bill, irides, and legs the same.

A male killed while intermediate, or in change with reference to the two states of plumage described, had the forehead black; top of the head and the occiput white; cheeks brownish buff; all the neck mottled with black and white; scapulars and tertials white at the base, black in the centre, and reddish-brown on the margin; secondaries distinguished from the coverts and the primaries by their lighter reddish-brown colour.

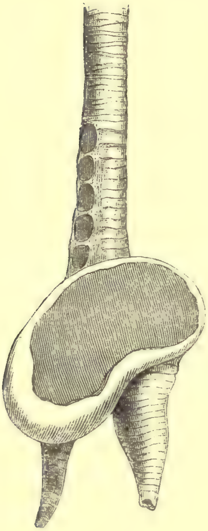
Females have the forehead, crown, and back of the neck, dark brown; the lore, or space between the base of the bill and the eye, the ear-coverts, and sides of the neck greyish-white; below the ear-coverts, on both sides, a patch of brown; all the back and wings dark brown; primaries and tail-feathers almost black; neck, in front, light brown, clouded with darker brown; breast, belly, and under tail-coverts white; thighs and flanks pale ash-brown,

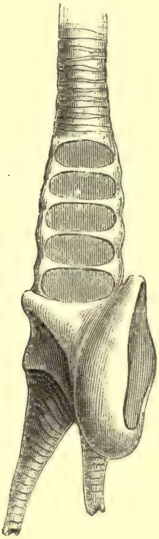
Females measure about sixteen inches in length, and do not assume the white scapulars or the elongated tail-feathers.

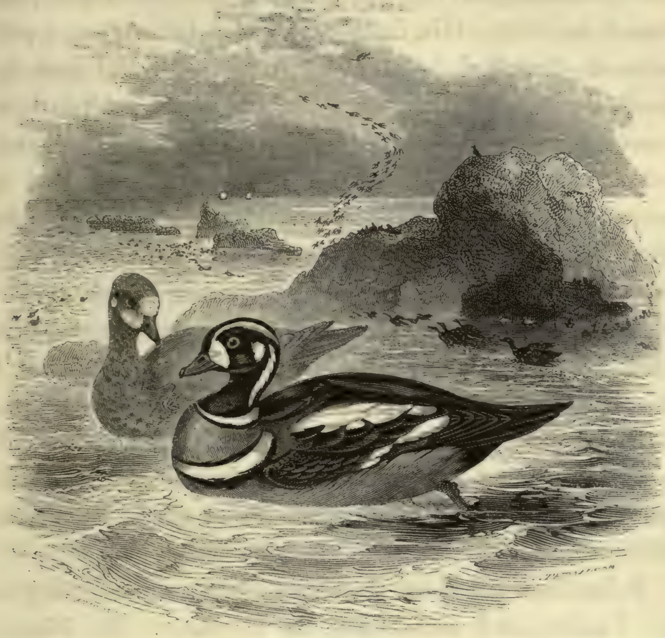
Young birds for the first twelve months resemble the females. Young males in their first winter may be distinguished from young females by being a little larger in size, and in having the brown and the white parts about the head and neck rather more pure in colour, and their limits better defined.

I am indebted to Richard Dann, Esq., for the use of a beautiful series of examples of this species, from which the various descriptions here given were derived. They were the specimens referred to as shot at various periods throughout the year in different parts of Scandinavia.

The trachea of the male is about seven inches in length, and very singular in its structure. At the bottom of the tube four window-like apertures, as well as the kidney-shaped tympanum, are closed by a delicate membrane. The vignette exhibits this curious structure in two points of view. The windpipe of the female is of the common or ordinary form, yet both sexes are said to have the same notes.







THE HARLEQUIN DUCK.

Fuligula histrionica.

Anas	*histrionica,*	*Harlequin*	*Duck,*	Penn. Brit. Zool. vol. ii. p. 269, Edit 1812.
„	„	„	„	Montagu, Ornith. Dict.
„	„	„	„	Bewick, Brit. Birds, vol. ii. p. 388.
Clangula	„	„	„	Flem. Brit. An. p. 120.
„	„	„	*Garrot,*	Selby, Brit. Ornith. vol. ii. p. 371.
„	„	„	„	Jenyns, Brit. Vert. p. 246.
„	„	„	*Duck,*	Eyton, Rare Brit. Birds, p. 84.
„	„	„	„	Gould, Birds of Europe, pt. iv.
Anas	„	*Canard*	*Histrion.,*	Temm. Man. d'Ornith. vol. ii. p. 878.

This beautiful species, which, from the great variety in its colours and markings, is called the Harlequin Duck, is another of the winter visiters to our coast, but is still more rare than the Long-tailed Duck last described. The

Harlequin Duck was first noticed as a British Duck in the Ornithological Dictionary of Colonel Montagu, published in 1802. His descriptions were taken from a pair of birds that had been killed in Scotland, and sent by Lord Seaforth to Mr. James Sowerby, who published coloured figures of them in 1806, in his British Miscellany, tab. 6, page 11. Mr. Sowerby afterwards received a young female of the same species from Mr. Simmons, who shot it on one of the Orkneys. It is, however, a very rare bird here, and but few occurrences are recorded. Dr. Edward Moore has noticed one that was obtained in Devonshire, in the winter of 1830. Some years since I bought two in the London market during the same winter; both of them were young females. Mr. Paget has recorded one that was obtained at Yarmouth; and the gamekeeper of Sir Philip Egerton shot one, a female, in Cheshire, in December 1840, during a frost.

It has been taken on the coast of France, according to M. Vieillot, and occasionally in Germany. M. Nilsson says it visits Sweden; it is said to be found in Russia, and from Lake Baikal to Kamschatka.

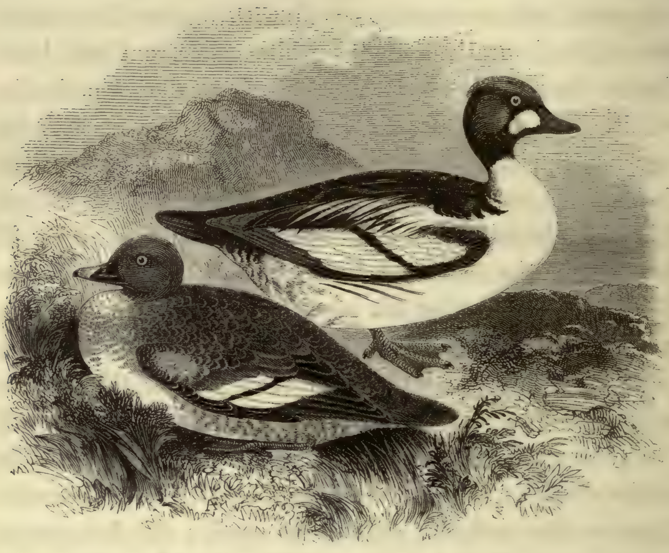
The Harlequin Duck breeds in Iceland; and the egg figured in Mr. Hewitson's work was brought from that island by G. C. Atkinson, Esq. of Newcastle, "who found a nest containing seven or eight eggs, deposited in a bed of the bird's down, upon the grass, bordering the margin of a shallow lake." The egg is of a pale buff colour, tinged with green, and measuring two inches one-eighth in length, by one inch five-eighths in breadth. This Duck also inhabits Greenland, and the most northern parts of the American continent. Dr. Richardson, in reference to its habits, says that it haunts eddies under cascades, and rapid streams. It takes wing at once when disturbed, and is very vigilant. It was never seen associating with any other Duck. Coloured figures of both sexes will be found in Edwards' Gleanings in Natural History, and these are among the earliest representations of this species. Plate 99 represents an adult male, brought from Newfoundland, where, on account of its variegated plumage, it is called the Painted Duck. Plate 157 is a representation of a female brought from Hudson's Bay, where the male, from his fine appearance, is called the Lord Duck.

This species is well known to American ornithologists. Mr. Audubon says, "On the 31st of May, 1833, I found them breeding on White Head Island, and other much smaller places of a similar nature, in the same part of the Bay of Fundy. There they place their nests under the bushes, or amid the grass, at the distance of twenty or thirty yards from the water. Farther north, in Newfoundland and Labrador, for example, they remove from the sea, and betake themselves to small lakes a mile or so in the interior, on the margins of which they form their nests beneath the bushes, next to the water. The nest is composed of dry plants of various kinds, arranged in a circular manner to the height of two or three inches, and lined with finer grasses. The eggs are five or six, rarely more, measure two inches and one sixteenth, by one inch and nine-sixteenths, and are of a plain greenish-yellow colour. After the eggs are laid, the female plucks the down from the lower parts of her body, and places it beneath and around them, in the same manner as the Eider Duck and other species of this tribe. The male leaves her to perform the arduous, but, no doubt, to her pleasant, task of hatching and rearing the brood, and, joining his idle companions, returns to the sea-shore, where he moults in July and August."

The adult male has the bill bluish-black; the irides orange; forehead, crown, back of the neck, around the eyes, the cheeks, and sides of the neck bluish-black, tinged with violet colour; at the base of the bill, and on the ear-coverts, a patch of white; over the eyes, and down the neck behind the ear-coverts, are streaks of white, that over the eye varied with rufous below, and reaching to the occiput; at the bottom of the neck, and again below across the chest, are bands of white; beneath the first, and above and below the second, are narrow bands of black; back, wing-coverts, and rump, bluish-black; primary quill-feathers and tail dull black; scapulars and secondaries white; front of neck between the crescentic bands bluish-grey; breast below the second band, and the belly dusky grey, becoming darker towards the vent and under tail-coverts, which are bluish-black; sides of the body and flanks rufous, or chestnut; legs and toes blue, the membranes darker. The whole length seventeen inches; the wing, from the bend eight inches; the first quill-feather the longest. The female is considerably smaller than the male, and of a nearly uniform brown colour above, but mottled on the front of the neck and on the breast with two shades of brown, and with a patch of more or less pure white on the forehead, as well as before and behind the eye; the belly whitish. Whole length fourteen inches; of the wing, from the carpal joint, seven inches.

Young males, during their first winter, like the females, but, in the second year, according to Mr. Audubon, "are greyish-brown on the back and wings, light brownish-grey beneath. The head and neck are of a dull leaden-blue, the upper part of the head darker. The white spot before the eye is mottled with grey, the line extending over the eye obscure, and the edging of the occiput faint reddish-brown. The two white marks exist on the sides of the neck, but are merely edged with darker blue; there are slight indications of the white collar, and the band before the wing is marked, but much smaller than in the adult. The quills are dark brown, but the secondaries are not tipped with white, of which there are but slight indications on the scapulars. The upper tail-coverts are blackish, the tail bluish-grey, lighter at the end. The bill is dusky; the feet of a leaden tint. The male in the third year, and after his second moult, has greatly improved in colouring, although the tints are not nearly so pure as in the old bird. The hind part of the neck is still brown, as are the wing-coverts; the sides are dark brownish-grey, with undulated yellowish-red bars. The white collar is not yet complete, but all the white markings on the neck are edged with black; the fore part of the breast is dull grey, the middle yellowish-grey, spotted with bluish-grey. The white bar on the wing is still wanting; the rump is glossy bluish-black, the tail nearly of the same tint."

I have never been able to obtain a specimen of the windpipe of the male of this species; it is thus described by Mr. Audubon: "is six inches and a half in length, has at first a breadth of only three lines, but at the distance of three-quarters of an inch, enlarges to four and a half lines, and so continues for two inches, it then contracts to two and a half lines, and again at the lower part enlarges to five and a quarter lines, and terminates in a large transverse bony dilatation or tympanum, of which the length is seven and a half lines, the breadth one inch two lines; it projects as usual to the left side, where it is of a rounded form."



THE GOLDEN EYE.

Fuligula clangula.

Anas clangula,	*Golden Eye Duck,*	Penn. Brit. Zool. vol. ii. p. 253.
” ”	” ”	Montagu, Ornith. Dict.
” ”	” ”	Bewick, Brit. Birds, vol. ii. p. 381.
” *glaucion,*	*The Morillon,*	” ” ” ” 385.
Clangula vulgaris,	*Golden Eye,*	Flem. Brit. An. p. 120.
” ”	*Common* ” *Duck,*	Selby, Brit. Ornith. vol. ii. p. 367.
” *chrysopthalmos,*	*Golden Eye Garrot,*	Jenyns, Brit. Vert. p. 245.
” *vulgaris,*	” ”	Gould, Birds of Europe, pt. i.
Anas clangula,	*Canard Garrot,*	Temm. Man. d'Ornith. vol. ii. p. 870.

The Golden Eye is another species of Duck, which visits this country in small flocks every winter, and is well known on most parts of our coast, particularly the females and young birds of the year, which are much more numerous, and more easily procured than adult males. These birds resort to, and feed in, the estuaries, or at a short distance up rivers that fall into the sea; they are, also, sometimes obtained on inland waters, both in decoys and by the gun. They are active in the water, swimming and diving with great rapidity, and when in pursuit of their food, which consists principally of small fishes; if five or six of these Ducks are together, they do not all dive at the same time, but some of them remain on the surface, as sentinels, where they keep a good look-out to prevent being approached and surprised by an enemy. The flesh of this species, like that of other Ducks feeding on fish, is not in much estimation. Young birds are better than old ones, but the muscular parts are dark and coarse both in appearance and flavour.

The Golden Eye is a regular winter visiter to Ireland, as well as to England and Scotland; it also visits Orkney and Shetland, but all of them leave in spring for Scandinavia, and countries still farther north. Mr. Hewitson, when with his party in Norway, found a nest of the Golden Eye; it was in a tree, in a hole lately occupied by the Great Black Woodpecker, at the height of ten or twelve feet from the ground; but though the aperture inside was about a foot in diameter, and lined with the soft down of the bird, the external opening was so small that it was with difficulty the hand could be inserted. The eggs were green, and measured two inches and three-eighths in length, by one inch five-eighths in breadth.

The notes supplied me by Richard Dann, Esq., are as follows:—"The Golden Eye is numerously spread over the whole of Lapland, as far as the wooded districts extend, both to the westward range of mountains which separate Norway from Sweden, as well as the eastern parts. It breeds in small numbers on the coast of Norway, but not from Stavanger northward, and on the Dofre Fiell Mountains. It prefers rivers to lakes, particularly the neighbourhood of falls and rapids. The Laps and settlers place boxes, with an entrance-hole, in the trees, on the banks of the rivers and lakes in which the Golden Eye lays its eggs. Although the birds are always robbed of their eggs, they gain nothing by experience, but seem to have such a predilection for holes in trees that if such cavities are to be found, artificial or natural, they always appear to prefer them to any other locality. The Golden Eye seems never to be driven from the north except by the waters freezing up. During the long and dreadful winter of 1837, the Golden Eye did not altogether migrate; the streams at Trolhattan, under the falls, and at various rapids and open parts of the rivers, the Golden Eyes were, in considerable numbers, all the winter, in company with the Goosander, while all the Ducks, Mallards, and Wigeons, were starved to death and found dead upon the ice. There have been speculations and opinions as to the mode the Golden Eye adopts to carry its young down from the holes of the trees in which they are hatched, which are frequently twelve or fifteen feet from the ground, and at some distance from the water. That the bird does transport them is beyond doubt. There is, I believe, but one person who has ever actually witnessed the manner. M. Nilsson was not aware of it. The Laps, whom I frequently interrogated, were also ignorant, beyond the mere fact of the bird carrying them. The clergyman, however, at Quickiock, in Lulean Lapmark, near the source of that chain of vast lakes whence the Lulean river flows, was once a witness. Contrary to the general character of the Lap clergymen in Lapland, this gentleman, with little to employ him, took a great interest in natural history and botany. While botanizing by the side of the lake near Quickiock, where Golden Eyes breed in great numbers, he saw a Golden Eye drop into the water, and at the same instant a young one appeared; after watching some time, and seeing the bird fly backwards and forwards from the nest five times, he was enabled to make out that the young bird was held under the bill, but supported by the neck of the parent."

West of Scandinavia the Golden Eye is found at the Faroe Islands, Iceland, and Greenland; and is well known and described by the ornithologists of North America. East of Great Britain it is found in winter in Holland and Germany; on the coast of France, and also, sometimes, in the interior. It visits, though rarely, the lakes of Switzerland, and has been taken in Provence. M. Savi includes it in his Birds of Italy, and mentions, that from the circumstance of this Duck having a light-coloured patch in addition to its light-coloured eye on each side of its head, it is, in different parts of that country, called *Quattr-occhi*, (four eyes). It is common in Sicily in winter. The Zoological Society have received specimens, sent by Keith Abbott, Esq., from Trebizond; the Russian naturalists found it in the vicinity of the Caucasus; and M. Temminck says that the Golden Eye of Japan is identical with the bird of Europe.

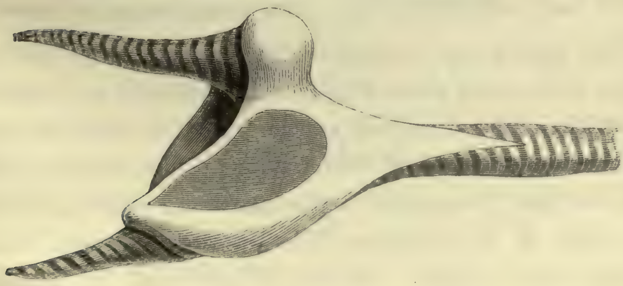
The Ornithological Society of London have preserved a female Golden Eye on the canal in St. James's Park for the last two years; she associates constantly with a male Smew.

The adult male has the bill bluish-black; the irides golden-yellow; at the base of the upper mandible a roundish white patch; head, and sides of the neck, rich glossy green, the feathers on the occiput a little elongated; chin and throat black ; lower part of the neck all round white ; middle line of the back and the rump bluish-black ; tail-feathers greyish-black ; point of wing black ; both sets of wing-coverts black at the base, white at the end ; primaries and tertials black ; secondaries and scapulars white, the latter edged with black ; breast, belly, and under tail-coverts white ; flanks and thighs dull greyish-black ; legs and toes yellow, the connecting membranes black. The whole length nineteen inches ; from the carpal joint to the end of the wing nine inches ; the first quill-feather the longest in the wing.

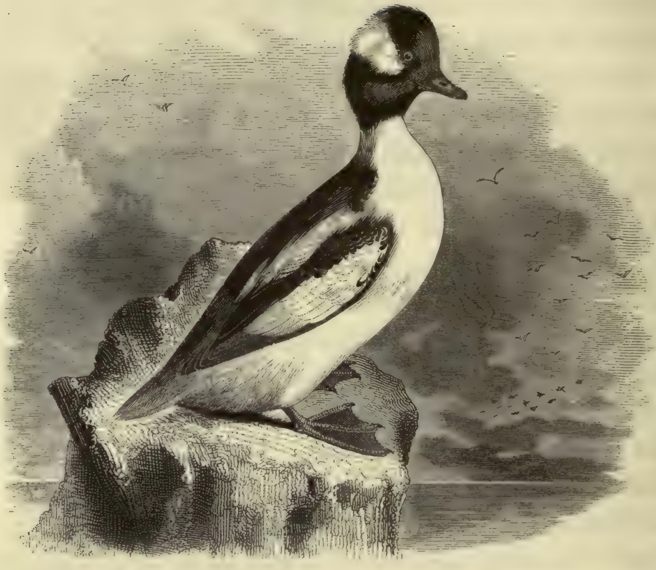
The female is smaller than the male, and has the bill brownish-black at the base, orange-brown towards the point ; the head, and upper part of the neck all round, hair-brown, below this a broad collar of white ; lower part of neck, back, rump, and tail-feathers greyish black, edged with bluish-grey ; smaller wing-coverts edged with white ; secondaries and greater coverts white ; primaries dusky ; breast and belly greyish-white ; sides, flanks, and under tail-coverts mottled with greyish-black ; legs, toes, and their membranes as in the males.

Young birds, for the first six months, resemble the female, but young males beginning to assume their proper colours, have the brown of the head darker ; the occipital feathers slightly elongated, causing the head to appear bushy and large ; the white colour on the wings occupies more surface, and being purer in its tint is more conspicuous ; the scapulars exhibit some white lines ; the back is darker, almost black ; and the bird is altogether larger in size ; in this state it has been called the Morillon, and was considered, for a time, a species distinct from the Golden Eye, but repeated examinations of the internal parts, particularly the organ of voice, has proved it to be the young of the bird first described. I have seen young males putting forth a few small white feathers, the commencement of the white patch at the base of the upper mandible, by the end of January, but it more frequently begins at a later period, namely, in March.

The trachea of this species is singular in its form, differing from the character of those of the Ducks in general, and bearing some resemblance to those of the Mergansers, both in the tube and in the labyrinth. The length is about nine inches, the diameter of the upper half of the tube equal in size and small; at the commencement of the second half, the tube is dilated to four times the previous size, and the rings are so arranged as to lay flat upon each other. The last, or fourth, portion again contracts till it ends in the labyrinth, of which the vignette below represents the surface nearest the back of the bird. The bronchial tubes are observed to be unequal in length, to compensate for the obliquity of the inferior surface of the labyrinth, which, as usual, is made up partly of bone and partly of membrane. The voice is said to be very loud, and hence this Duck was called *clangula*.



NATATORES. *ANATIDÆ.*



BUFFEL-HEADED DUCK.

Fuligula albeola.

Clangula albeola,	*Buffel-headed Garrot,*	JENYNS, Brit. Vert. p. 246.
Fuligula ,,	*Buffel-headed Duck,*	BONAPARTE, AUDUBON, and others.

THIS species was included by Mr. Donovan in his British Birds, volume 10, plate 226, but no authority was named on which it was given, nor any record of the place of capture. In the winter of 1830, or about that time, a male was shot near Yarmouth, in Norfolk, which passed into the possession of Mr. Stephen Miller, a resident there, who prized it very highly. Of Mr. Miller's bird, Mr. Joseph Clarke, of Saffron Walden, very kindly sent me a drawing.

This bird is also referred to by Mr. Paget, in his Sketch of the Natural History of Yarmouth and its vicinity, page 11. From a recent conversation with the Rev. Richard Lubbock, who is well acquainted with the extensive waters near Yarmouth visited by numerous birds, I have reason to believe that other examples of the Buffel-headed Duck have been seen in winter in that country, but the bird is very shy, and from its power of diving very difficult to get at. The boat-shooters there, or some of them at least, call this bird the true Morillon ; they are well acquainted with the Golden Eye, or Rattle-wings, as they call it, in every state of its plumage, and therefore, very properly, consider their Morillon (this Buffel-headed Duck) as distinct from the Golden Eye.

In the autumn of 1841 Mr. Mummery, the curator of the Museum of Natural History at Margate, sent me word that during a visit to Orkney, from which he had then but recently returned, he had obtained a Buffel-headed Duck there, which was intended for the Margate Museum.

This species is well known to the naturalists of North America, and to their histories we must refer for an account of its habits. Mr. Audubon says "that during autumn and winter it is to be seen in almost every part of the Union, frequenting the sea-shore, rivers, and lakes. It feeds on shell-fish, shrimps, and marine plants, particularly the species of laver called *Ulva lactuca*, and the bird being generally very fat, one of its common names is Butter-box ; it is also called Spirit Duck, and Conjuror, from the facility with which it escapes by diving suddenly at the flash of a gun, or the twang of a bowstring. The Buffel-headed Duck is a very hardy bird, for it remains during extremely cold weather on the Ohio, when it is thickly covered with floating ice, among which it is seen diving almost constantly in search of food. When the river is frozen over they seek the head waters of the rapid streams, in the turbulent eddies of which they find abundance of prey. Possessed of a feeling of security arising from the rapidity with which they can dive, they often allow you to go quite near them, though they will then watch every motion, and at the snap of your gun, or on its being discharged, disappear with the swiftness of thought, and, perhaps, as quickly rise again within a few yards, as if to ascertain the cause of their alarm. When these birds return to us from the north, the number of the young so much exceed that of the old, that to find males in full plumage is much more uncommon than toward the time of their departure, when I have thought the males as numerous as the females. Although at times they are very fat, their flesh is fishy and disagreeable; many of them, however, are offered for sale in our markets.

"The note is a mere croak, much resembling that of the Golden Eye, but not so loud." These birds leave the United States in spring to breed in more northern regions, and, like the Golden Eye, are said to make their nests in hollow trees. Mr. Audubon saw many in flocks in the Bay of Fundy. The specimen figured by Edwards, plate 100, came from Newfoundland. Dr. Richardson states that they frequent the rivers and fresh-water lakes throughout the Fur countries in great numbers, but does not mention having observed them breeding. Dr. Townsend found this species on the streams of the Rocky Mountains; and it has been observed as far westward as Monterey, in New California. Captain Beechey, during a voyage to the Pacific and Behring's Straits, found this Duck at San Francisco.

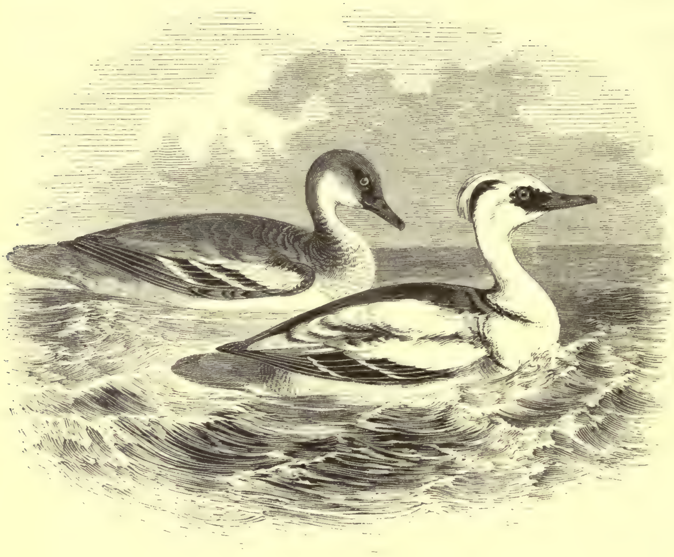
In the adult male the bill is bluish-black, narrow, and small; irides hazel; forehead, lore, chin, throat, and sides of the neck, bluish-black, tinged with rich purple and green ; behind the eye, on the ear-coverts, and thence upwards to the crown of the head, and backwards to the occiput, a triangular patch of pure white ; the feathers of the head elongated forming a crest which is elevated at pleasure ; lower part of the neck white ; back, rump, and tertials black ; scapulars, wing-coverts, and secondaries white ; primaries greyish-black ; tail-coverts and tail-feathers pale ash-grey ; breast, belly, and all the under surface of the body white ; legs, toes, and membranes yellow. Whole length fifteen inches. From the carpal joint to the end of the longest quill-feather six inches and three-quarters.

The female is smaller than the male ; the head and neck ash-brown, with a patch of white behind the eye ; upper part of the back greyish-brown, lower part black ; wing-coverts, primaries, and tertials dark greyish-brown ; secondaries white ; tail ash-grey ; breast and belly dull white ; vent and under tail-coverts greyish-white ; legs and toes bluish-black : whole length thirteen inches ; wing six inches and one-quarter. Young males in the first autumn resemble females.

The trachea, described by Mr. Audubon, " is five inches long, much flattened, its rings unossified, its diameter at the top two lines and three-quarters, towards the lower part three lines, having scarcely any appearance of dilatation at the part which is so excessively enlarged in the Golden-Eyed Duck, which, in form and habits, is yet very closely allied."

The specimens from which the figure and descriptions here given were derived, were obligingly lent me for my use in this work by Mr. Joseph Clarke of Saffron Walden.

NATATORES. *ANATIDÆ.*



THE SMEW

Mergus albellus.

Mergus albellus,	*Smew Merganser,*	Penn. Brit. Zool. vol. ii. p. 216.
,, ,,	*The Smew,*	Montagu, Ornith. Dict.
,, ,,	,, ,,	Bewick, Brit. Birds, vol. ii. p. 276, male.
	,, *Lough Diver,*	,, ,, ,, ,, 278, female.
,, ,,	*White-headed Goosander,*	Flem. Brit. An. p. 129.
,, ,,	*Smew, or White Nun,*	Selby, Brit. Ornith. vol. ii. p. 385.
,, ,,	*The Smew,*	Jenyns, Brit. Vert. p. 250.
,, ,,	,, ,,	Gould, Birds of Europe, pt. i.
,, ,,	*Harle Piette,*	Temm. Man. d'Ornith. vol. ii. p. 887.

Mergus. *Generic characters.*—Bill about as long, or longer than the head, straight, slender, rather pointed, the base large, forming an elongated and almost a cylindrical cone ; point of the upper mandible curved, and, with the horny nail, forming a hook ; edges of both mandibles furnished with saw-like teeth, the points directed backwards. Nostrils lateral, about the middle of the beak, longitudinally elliptic. Legs short, placed rather backward ; three toes in front webbed, hind toe with a pendant lobe or membrane. Wings moderate, the first and second quill-feathers nearly equal in length.

By reversing the usual order of arrangement of the species of this genus, and placing the smallest bird first, the transition from the oceanic Ducks to the Mergansers is easy and natural, agreeing as well in general appearance as they are known to assimilate in habits. The Smew, or Smee, as it is sometimes called, is a winter visiter here, and the most common species of the genus, frequenting our rivers and large pieces of fresh water, as well as most parts of the coast. The adult male is a handsome bird, remarkable for the contrast, rather than the variety of the colours of his plumage. Young birds, frequently called Red-headed Smews, are much more common in our markets than old males. As a species they are shy and vigilant, taking long flights occasionally. They feed on small fish, crustacea, and aquatic insects, which they obtain without difficulty, as they are excellent divers, but when walking they appear to labour in their progression from the backward position of their legs.

Smews are not mentioned as having been known to breed in this country, but leave us in spring to return to more northern, or rather, north-eastern localities. Richard Dann, Esq. tells me these birds are very common in the Elbe in winter, and that he has seen them at the entrance of the Stockholm Fiord in November, but nowhere else. Pennant, in his Arctic Zoology, says, that in the Russian Empire Smews frequent the same places with the Goosander; each of them retiring southward at the approach of winter; and are observed returning up the Volga in February, tending towards the north. The nesting habits of the Smew are unknown, but the eggs are said to be eight or ten in number, and the colour whitish.

This bird is not found on the west coast of Norway, on the Faroe Islands, in Iceland, or Greenland. The species was not observed by any of our Arctic travellers either on the northern parts of the American continent or any of the numerous islands, and there is reason to believe that it is only an accidental straggler to the United States.

In this country it is well known on the east, south, and west coats; and Mr. W. Thompson mentions having seen specimens from different parts of Ireland. East of our own country the Smew is rather common in Holland and Germany in winter, more rare in France, frequents also the lakes of Switzerland; and has been observed there as late as May; it visits also Provence and Italy, young birds have been observed at Corfu and in Sicily. The Smew has been found as far south as Tinos, in the Grecian Archipelago. Mr. Strickland saw specimens at Smyrna in winter. The Zoological Society have received specimens, sent by Keith Abbott, Esq. from Trebizond; and the Russian naturalists include it in the catalogue of Birds found in the country of the Caucasus. It has been obtained in North-Western India, and at Calcutta. Finally, M. Temminck remarks that specimens received from Japan do not differ from those killed in Europe.

In the adult male the bill is one inch and a half long, and of a bluish-lead colour, the nail horny and white; the irides reddish-brown; at the base of the bill on each side a black patch, which just surrounds the eye; from the crown of the head down the line of the occiput, another dark patch elongated, which is tinged with green, the dark feathers mixed with others that are white, and all somewhat elongated forming a crest; the other parts of the head, the chin, and all the neck white; the back black; rump, upper tail-coverts, and tail-feathers ash-grey; the point of the wing greyish-black, with two crescentric lines of black pointing forward, one before and one behind the point of the wing; the small wing-coverts and scapulars white, the latter edged with black; great coverts and secondaries black, tipped with white, forming two narrow white bands; the primaries nearly black; tertials ash-grey passing to lead-grey, the inner feathers being the darkest in colour; all the under surface of the body pure white; the sides under the wing and the flanks barred with narrow ash-grey lines; legs, toes, and their membranes bluish and lead-grey. The whole length seventeen inches and a half; the wing from the carpal joint to the end of the longest quill-feather, seven inches and three-quarters.

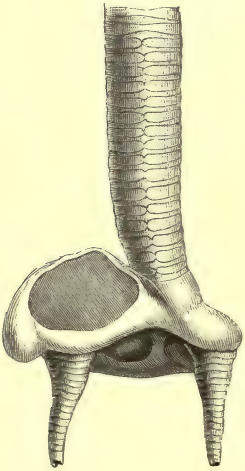
An adult male, belonging to the Ornithological Society of London, which has lived more than two years on the canal in St. James's Park, assumes the colours of the plumage of the adult female before the middle of June, remaining in that state during the summer, re-assuming his white plumage at the regular autumn moult. This bird associates constantly with a female Golden Eye, but not with any other species.

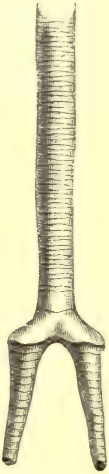
Adult females have the bill and the irides of the same colours as those of the males, with a black patch at the base of the upper mandible; all the top of the head reddish-brown; down the back of the neck a streak of ash-grey, which extends to form a collar at the bottom, and spreads thence over the space before the wings and on the upper part of the back; centre of the back, the rump, upper tail-coverts, and tail-feathers greyish-black; point of the wing ash-grey; smaller wing-coverts pure white; greater coverts and secondaries black, tipped with white as in the male, but the two white bands are narrower than those of the male; primaries nearly black; tertials lead-grey; chin, throat, and all the under surface of the body pure white; legs, toes, and their membranes lead-grey.

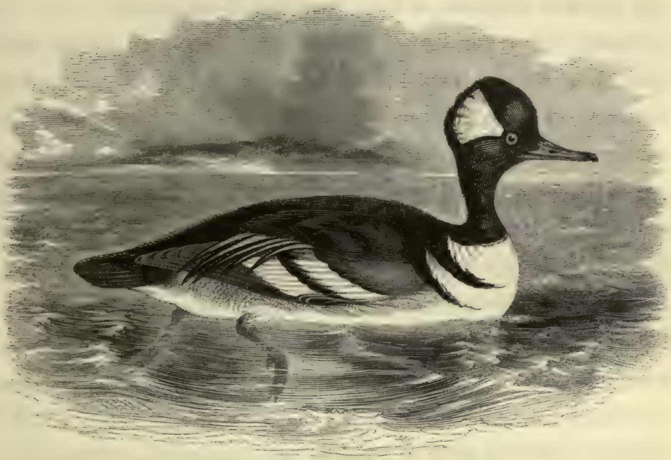
Females are considerably smaller than males, measuring but fourteen inches and a half in their whole length, and but six inches and a half from the point of the wing to the end of the longest quill-feather.

Young males resemble females for the first twelvemonths, and do not assume their white plumage till their second autumn moult. Young females have no black patch on the side of the head during their first winter; the red colour on the back of the neck covers a larger space; the white colour of the smaller wing-coverts is mixed with ash-grey, and the under surface of the body is of a dull white. Females probably assume the black patch on the lore, and the more pure white colour on the wing-coverts at their second autumn moult.

A portion of the trachea of the male Smew is represented below on the left hand. The figure on the right is from the lower portion of the windpipe of the female.







THE HOODED MERGANSER.

Mergus cucullatus.

Mergus	*cucullatus,*	*Hooded*	*Merganser,*	Selby, Brit. Ornith. vol. ii. p. 383.
,,	,,	,,	,,	Jenyns, Brit. Vert. p. 249.
,,	,,	,,	,,	Eyton, Rare Brit. Birds, p. 75.
,,	,,	,,	,,	Gould, Birds of Europe, pt. ii.
,,	,,	*Harle couronné,*		Temm. Man. d'Ornith. vol. iv. p. 557.

We are indebted to Mr. Selby for the first notice of the Hooded Merganser as a British Bird; the specimen was obtained at Yarmouth, in Norfolk, during the winter of 1829, and passing into the possession of Mr. Selby, the occurrence was recorded in the first volume of the Transactions of the Natural History of Northumberland, Durham, and Newcastle-upon-Tyne, page 292. A short notice appears also in Messrs. Paget's sketch of the Natural History of Yarmouth and its vicinity; and an early account appeared in the third volume of the Edinburgh

Journal of Natural and Geographical Science, page 238, by Mr. Selby, who was informed that other instances of the capture of birds of this species had occurred.

Since that period T. C. Eyton, Esq. has obtained a specimen which was killed in the Menai Straits, near Bangor, in the winter of 1830-31; Mr. Hoy of Stoke Nayland, in Suffolk, obtained an adult male as recorded in the Naturalist; and I have heard of another example that was shot at Benton Park, the estate of Anthony Ralph Biddulph, Esq.

Though only an accidental visiter to this country, or even to Europe, the Hooded Merganser is well known in North America, and to the ornithologists of that extensive continent we must refer for an account of the habits of this species. Mr. Audubon writes as follows:—"Excepting the Smew, or White Nun, the Hooded Merganser is the handsomest of its family. Its broad and rounded crest of pure white, with an edging of jetty black, and which it closes or spreads out at pleasure, renders the male of this species conspicuous on the waters to which it resorts. The activity of its motions, the rapidity of its flight, and its other habits, contribute to render it a pleasing object to the student of nature, not less than to the sportsman. Its flesh, however, has a fishy taste and odour, although it is relished by some persons. It seems to prefer fresh water, and is by no means very frequent along the sea coast. Long, narrow, and moderately deep creeks, or small ponds, are more frequented by it than large rivers or lakes. On the waters of the western and southern States these Mergansers are seen to arrive from the north early in October, but, generally, later than many species of Ducks, although sooner than either the Red-breasted Merganser, or the Goosander. At the approach of night, a person standing still on the banks of a river as the Ohio, first hears the well-known sound of wings whistling through the air, presently after, a different noise, as if produced by an Eagle stooping on her prey, when gliding downwards with the rapidity of an arrow, he dimly perceives the Hooded Mergansers sweeping past. Five or six, perhaps ten, there are; with quick beats of their pinions, they fly low over the waters in wide circles. Now they have spied the entrance of a creek; they shoot into it, and in a few seconds you hear the rushing noise which they make as they alight on the bosom of the still pool. Up the creek they proceed, washing their bodies by short plunges, and splashing the water about them. Now they dive for minnows, which they find in abundance, and which no doubt prove delicious food to the hungry travellers. At length having satisfied their appetite, they rise on wing, fly low over the creek with almost incredible velocity, return to the broad stream, rove along its margin until they meet with a clean sand-beach, where they alight, and where, secure from danger, they repose until the return of day. This bird ranges throughout the United States during winter, content with the food it meets with in the bays and estuaries of the eastern coast, and on the inland streams. The dam of the Pennsylvania miller is as agreeable to it as that of the Carolina rice-planter; even the numerous streams and pools of the interior of the Floridas are resorted to by this species, and there I have found them full of life and gaiety, as well as on the Missouri, and on our great lakes. When the weather proves too cold for them they go southwards, many of them removing towards Mexico."

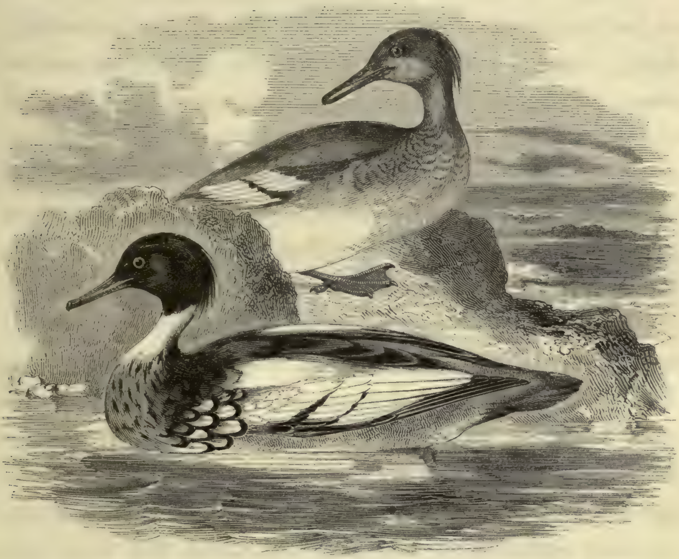
"The Hooded Merganser is a most expert diver, and so vigilant that at times it escapes even from the best percussion gun. As to shooting at it with a flint-lock, you may save yourself the trouble, unless you prevent it from seeing the flash of the pan. If you wound one, never follow it; the bird, when its strength is almost exhausted, immerses its body, raises the point of its bill above the surface, and in this manner makes its way among the plants, until finding some safe retreat along the shore, it betakes itself to it, and there remains, so that you may search for it in vain, unless you have a good dog. Even on wing it is not easily shot. If on a creek ever so narrow, it will fly directly towards its mouth, although you may be standing knee-deep in the midde. It comes up like a ball, rises and passes over head with astonishing speed, and if you shoot at it, do not calculate upon a hit. You may guess how many one may shoot in a day."

"Like all the rest of the tribe, which, when far north, for the want of hollow trees, breed on the moss or ground, the Hooded Mergansers that remain with us nestle in the same kind of holes or hollows as the Wood Ducks; at least I have found their nests in such situations seven or eight times, although I never saw one of them alight on the branch of a tree, as the birds just mentioned are wont to do. They dive as it were directly into their wooden burrows, where, on a few dried weeds and feathers of different kinds, with a small quantity of down from the breast of the female, the eggs are deposited. They are from five to eight, measure one inch and three-fourths, by one and three-eighths, and in other respects perfectly resemble those of the Red-breasted Merganser. The eggs are laid in May, and are hatched some time in June. The young, like those of the Wood Duck, are conveyed to the water by their mother, who carries them gently in her bill; for the male takes no part in providing for his offspring, but abandons his mate as soon as incubation has commenced. The affectionate mother leads her young among the tall rank grasses which fill the shallow pools, or the borders of creeks, and teaches them to procure snails, tadpoles, and insects. On two occasions the parents would not abandon the young, although I expected that the noises which I made would have induced them to do so; they both followed their offspring into the net which I had set for them. The young all died in two days, when I restored the old birds to liberty.

" The Hooded Mergansers which leave the United States, take their departure from the first of March to the middle of May; and I am induced to believe that, probably, one-third of them tarry for the purpose of breeding on the margins of several of our great lakes. When migrating, they fly at a great height, in small loose flocks, without any regard to order. Their notes consists of a kind of rough grunt, variously modulated, but by no means musical, and resembling the syllables *croo*, *croo*, *crooh*. The female repeats it six or seven times in succession, when she sees her young in danger. The same noise is made by the male, either when courting on the water, or as he passes on wing near the hole where the female is laying one of her eggs."

In the adult male the bill is dull reddish-brown; the irides yellow; head, and upper part of the neck black; top of the head ornamented with a half circular crest, the posterior half of which is white edged with black; back and wing-coverts black; primaries, secondaries, rump, and tail-feathers dark brown; scapulars and tertials elongated, slender, and white, edged with black; lower part of neck in front white, with the points of two crescentic bands descending from the upper part of the back, and directed forwards; belly, vent and under tail-coverts white; sides waved with yellowish-brown; legs and feet dull red. The whole length of the bird nineteen inches; the wing, from the point to the end of the longest quill-feather seven inches and a half.

The female is rather smaller in size; the head, neck, back, and wings dark brown; top of the head reddish-brown, the feathers elongated; chin white; neck in front pale brown, the edges of the feathers lighter in colour; under parts white; bill, irides, and feet, as in the males. The young birds resemble the female for the first year; during the second the black and white about the head appears in young males; in the third spring they are complete.



THE RED-BREASTED MERGANSER.

Mergus serrator.

Mergus serrator,	*Red-breasted Merganser,*	PENN. Brit. Zool. vol. ii. p. 214.
,, ,,	,, ,, ,,	MONTAGU, Ornith. Dict.
,, ,,	,, ,, ,,	BEWICK, Brit. Birds.
,, ,,	,, ,, *Goosander,*	FLEM. Brit. An. p. 129.
,, ,,	,, ,, *Merganser,*	SELBY, Brit. Ornith. vol. ii. p. 379.
,, ,,	,, ,, ,,	JENYNS, Brit. Vert. p. 249.
,, ,,	,, ,, ,,	GOULD, Birds of Europe, pt. iii.
,, ,,	*Harle Huppé,*	TEMM. Man. d'Ornith. vol. ii. p. 884.

THE RED-BREASTED MERGANSER is one of the species of the genus now under notice, that may be said to breed annually in some parts of the British Islands, and various localities will be quoted; though by far the larger portion of these birds which are found in this country may be considered but as winter visiters, which arrive here late in autumn, and retire in spring to various parts of Scandinavia and other high northern localities. In winter, particularly during severe weather, they are not uncommon on our coast, appearing to prefer bays and estuaries, but sometimes pursuing the course of rivers and visiting inland waters. They do not confine themselves, in their visits, to any particular counties. They frequent the eastern coast as mentioned by Mr. Selby, in his catalogue of the Birds of Northumberland and Durham, Holy Island, and the Fern Islands, being favourite localities. Thence they pursue a course southwards by Yorkshire, Norfolk, and Suffolk. The Rev. L. Jenyns told me that a female had been killed in Burwell Fen, Cambridgeshire, in summer. They are more rare on the shores of Kent, but visit the Thames, where they are called Sawbills, in reference to their conspicuously toothed beak; and Mr. Jesse sent me a fine specimen that was shot during severe weather above Putney Bridge. The Red-breasted Merganser is included in the catalogues of the Birds of Dorsetshire; I have had specimens sent me from Devonshire. It has been killed in Cornwall, and as high up the Severn as the vicinity of Worcester. Mr. Dillwyn has noticed its occurrence at Swansea, and it has been obtained on the coasts of North Wales and Lancashire.

In reference to the breeding stations of this species, Mr. Thompson says it is indigenous to Ireland, nestling on islets both of marine and fresh-water loughs. Pennant has recorded its breeding in the Isle of Islay. Sir W. Jardine and Mr. Selby found nests of this species when on a fishing excursion upon Loch Awe, in Argyleshire. One of these nests was upon a small wooded island, placed among thick brush-wood, under the covert of a projecting rock, and completely surrounded with nettles, long grasses, and fern. It was carefully made of moss, plucked from the adjoining rocks, mixed with the down of the bird; both in structure and materials resembling that of the Eider Duck. It contained nine eggs, of a rich reddish-yellow, or fawn colour. The bird was remarkably tame, sitting until nearly taken with a small hand-net. Sir W. Jardine very kindly sent me one of these eggs for my collection; it measured two inches and a half in length, and one inch and three quarters in breadth. The male leaves the females as soon as incubation commences. Mr. J. Macgillivray, who visited the outer Hebrides in the summer of 1840, says, that a few remain there during the breeding season, and he took a nest with eggs on a small island between Killigray and Ob, in the sound of Harris. Pennant mentions that the Red-breasted Merganser had been found breeding at Loch Maree in Ross-shire; and Mr. Selby, when with a party exploring Sutherlandshire, in June 1834, says it was very plentiful upon all the lochs, but only a few at that time had commenced incubation.

Mr. Robert Dunn, in his "Ornithologist's Guide to the Islands of Orkney and Shetland," says, this wary bird is very plentiful in both countries, and is a constant resident; it is extremely shy at all times. In the summer season the male loses his beautiful plumage, and approaches in colour to that of the female. This bird is seldom seen far from land, but frequents the inlets and inland lakes.

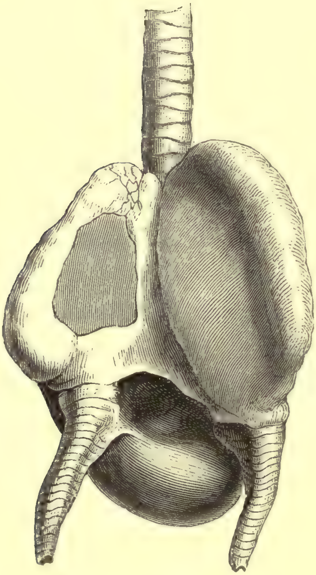
Mr. Hewitson, during his trip to the west coast of Norway, observed that the Red-breasted Merganser was frequent upon most of the lakes and rivers; the eggs were laid under shelter, either upon their margins or their numerous woody islands. Richard Dann, Esq. sent me word that the Merganser is far more numerously spread over Norway and Sweden than the Goosander; it breeds on all the coasts, and is also found in the Dofre Fiell and Lapland mountains as high as the birch grows. This species is found in Iceland and at the Faroe Islands; in Russia, and on the great rivers of Siberia and Lake Baikal. Its food is fish, obtained by diving, which its serrated beak, with the horny nail depending at a right angle from the upper mandible, enables it to catch and hold with certainty. M. Temminck says this species is abundant on the shores of Holland, and sometimes on the marshes of the interior: it is found also in Germany, Switzerland, Provence, and Italy. A few are seen at Corfu, in Sicily and at Malta in winter. According to M. Temminck birds from Japan exactly resemble European examples.

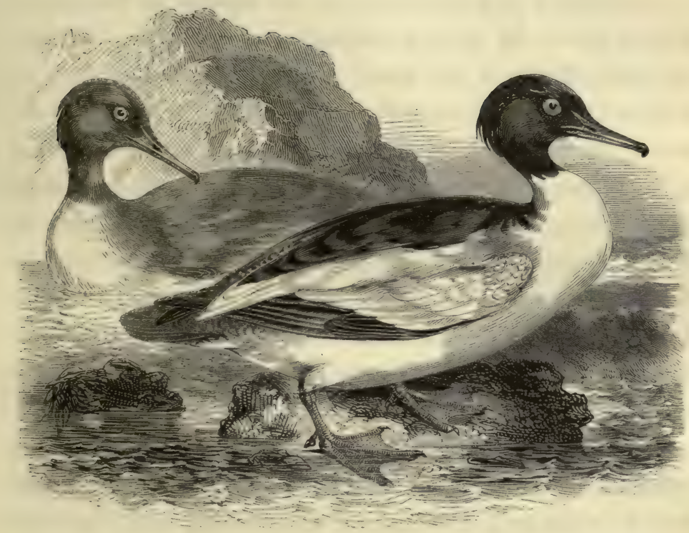
The Red-breasted Merganser is found in Greenland, Newfoundland, and Hudson's Bay. Dr. Richardson obtained specimens in the fur-countries of North America; and interesting accounts of its habits in the United States are given by the ornithologists of those countries.

In the adult male the upper mandible is dark reddish-brown, except the edges, which are of a brighter red, under mandible wholly red; irides red; all the head and the upper part of the neck dark, but shining green, the feathers on the crown and occiput elongated; middle of neck all round white, except a narrow line of black descending from the occiput to the upper part of the back, which, with the shoulders, is also black; the short scapulars white, those more elongated are black; before the point of the wing on each side are several roundish white feathers, margined with broad and rich velvet-black; point of the wing dark brown; small wing-coverts white; great coverts and secondaries black at the base, the outer halves white, forming with the smaller coverts three conspicuous white bands on the wing; primary quill-feathers brownish-black; tertials white, edged with black; lower portion of the back, the sides, flanks, rump, and upper tail-coverts grey; tail-feathers stiff, rather pointed, and of a uniform brownish-ash colour; lower part of the neck on the front and sides pale chestnut-brown, streaked, and otherwise varied with black; breast, belly, and under tail-coverts white; legs and toes reddish-orange, the membranes darker reddish-brown. The whole length full twenty-two inches. From the carpal joint to the end of the longest quill-feather ten inches.

Females are rather smaller than males, and have the head and the neck behind reddish-brown, darkest on the crown of the head, the occipital feathers elongated; all the back, scapulars, and small wing-coverts umber-brown; greater coverts and secondaries dark brownish-black, ending with white, forming two white bands; primaries and tertials dark brownish-black; upper tail-coverts and tail-feathers brown-ash colour; neck in front mottled with reddish and pale brown, on a white ground; all the under surface of the body white. Whole length about twenty-one inches.

Young birds resemble adult females during their first winter. Males, however, in any state of plumage may be ascertained by passing the finger and thumb down the neck, feeling along the line of the trachea; the male has an enlargement of the tube before it passes into the body; the tube of the trachea in the female is uniform in its size throughout its whole length. Young males do not obtain their fine plumage till after their second autumn moult, and old males from the time they desert the females till their autumn moult begins "lose the rich glossy green of the head and neck, which degenerates into an obscure brown, and the fine chestnut colour of the breast entirely disappears."—*Gould.*





THE GOOSANDER.

Mergus Merganser.

Mergus merganser,	*The Goosander,*	Penn. Brit. Zool. vol. ii. p. 211.
„ *castor,*	„ *Dundiver,*	„ „ „ „ 213.
„ *merganser,*	„ *Goosander,*	Mont. Ornith. Dict.
„ *castor,*	„ *Dundiver,*	„ „ „
„ *merganser,*	„ *Goosander,*	Bewick, Brit. Birds, vol. ii. p. 266.
„ *castor,*	„ *Dundiver,*	„ „ „ 269.
„ *merganser,*	„ *Green-headed Goosander,*	Flem. Brit. An. p. 128.
„ „	„ *Goosander,*	Selby, Brit. Ornith. vol. ii. p. 375.
„ „	„ „	Jenyns, Brit. Vert. p. 248.
„ „	„ „	Gould, Birds of Europe, pt. i.
„ „	*Grand Harle,*	Temm. Man. d'Ornith. vol. ii. p. 881.

The Goosander, the largest of the British Mergansers, a male and female of which are figured above, is rather to be considered as a winter visiter only to our islands, although a small number remain to breed annually among the lochs in some northern localities to be hereafter pointed out. These birds usually make their appearance in November, especially in severe weather, and remain till the end of March; but the greater proportion of them are females, or young birds of the year: the fully adult male may be considered as the most rare. All of them frequent freshwater lakes as well as the sea-shore and estuaries, but if severe frost occurs they are driven to the shelter of deep bays, where, by their powers of diving, they are able to obtain a supply of fish, the principal object sought after as food. Possessing strong tooth-like processes on the bill, by which it is enabled to hold a slippery prey, this bird, like the Red-breasted Merganser, is also called Sawbill and Jacksaw.

Goosanders in any state are rare visiters to the southern counties of England, but have been killed during hard winters in Cornwall, Devonshire, Dorsetshire, and eastward to Sussex, Kent, and Essex. A few are occasionally exposed for sale in winter in the London markets, and specimens are obtained in Suffolk, Norfolk, Lincolnshire, and northward to Durham, and Northumberland. In Sutherlandshire, Mr. Selby mentions that two or three birds of this species were seen in June 1834, during the Natural History excursion, but no nest or breeding station was detected. Mr. J. Macgillivray, in his recently published notes on the Zoology of the Outer Hebrides, says the Goosander is pretty common, breeding close to the larger lakes, and occasionally by the sea, as near Loch Maddy in North Uist. In Ireland, Mr. Thompson, of Belfast, observes, that the Goosander is only a regular winter visiter. The Rev. Mr. Low, in his Natural History of Orkney, says, "With us the Goosander continues the whole year, and may be seen every day in numbers on the lakes and in the sea; builds on the small holms of the loch of Stenness, along with other birds; in harvest and in winter fly in flocks, in summer in pairs; the male and female are then strict companions, but, like many other birds, when breeding-time is over, part company, and lose acquaintance." The nest, according to Mr. Selby, is constructed "near to the edge of the water, of a mass of grass, roots and other materials, mixed and lined with down. It is placed sometimes among stones, sometimes in long grass, or under the cover of bushes, and, when the locality affords them, in the stumps or hollows of decayed trees." The eggs are of a uniform buff-coloured white, measuring two inches and a half in length, by one inch and eight lines in breadth. Six or seven young are considered a large brood, and the careful mother has been seen, like the Wild Duck, to carry some of her offspring, occasionally, on her back when in the water, as the parent Swan is known to do.

Mr. Hewitson, in his notes on the ornithology of Norway, says, "of the Goosander we frequently observed small flocks, almost entirely male birds, accompanied rarely by one or two females. The females must have been breeding somewhere in the neighbourhood, but it was in vain that we made every search for the eggs.

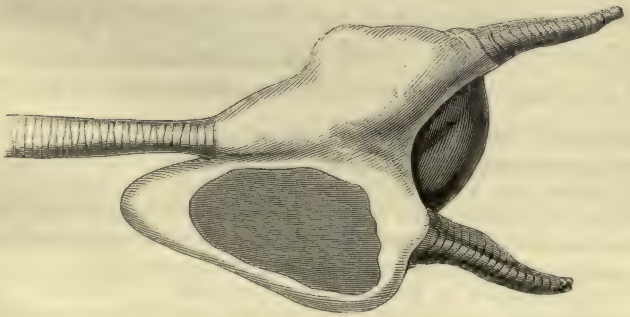
Professor Nilsson says the Goosander is not uncommon on the lakes and rivers of Sweden; and Mr. Dann tells me that it is widely dispersed from Scona to Lapland, as far as the woody districts extend; and that it breeds at Gellivara. Linnæus, in his tour in Lapland, describes a male Goosander which had been caught in a net set for pike, near Lycksele; and Acerbi in his travels, when on the banks of a river near Kardis, in Lapland, says "the *Mergus merganser*, instead of building a small nest, like the Ducks, on the banks, or among the reeds and rushes, chooses to lay her eggs in the trunk of an old tree, in which time, or the hand of man, has made such an excavation as she can conveniently enter. The person that waylays the bird for her eggs, places against a fir or pine tree somewhere near the bank of the river, a decayed trunk, with a hole in its middle; the bird enters and lays her eggs in it: presently the peasant comes, and takes away the eggs leaving, however, one or two. The bird returns, and, finding but a single egg, lays two or three more; she is again robbed as before—but a few are left at last for the increase of her family. As soon as the eggs are hatched, the mother takes the chicks gently in her bill, carries and lays them down at the foot of the tree, where she teaches them the way to the river, in which they instantly swim with an astonishing facility."

The Goosander is well-known in Russia, and frequents the large inland waters of Germany; it is found also in winter in Holland, France, Switzerland, Provence, Italy, and Sicily. It has been observed in the vicinity of the Caucasus, in North-West India, and Nepal. M. Temminck says it is found in Japan. It is well known to the naturalists of the United States; and is found in North America, Hudson's Bay, Greenland, and Iceland.

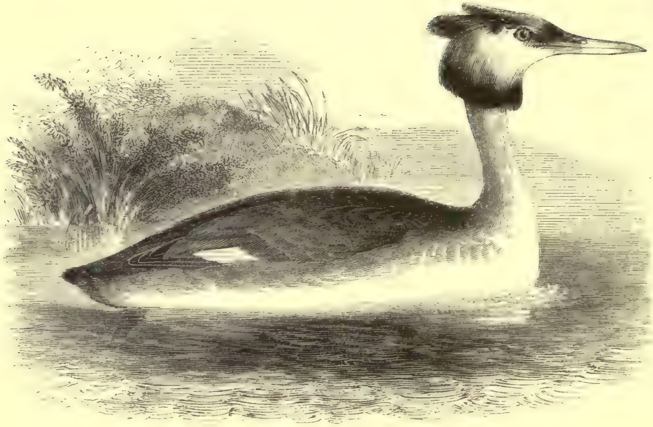
In the adult male the bill is vermilion red, the superior ridge of the upper mandible and the nail black; the irides red; the head and upper part of the neck rich shining green, with the occipital feathers elongated; upper part of the back and the scapulars black; lower part of the back, upper tail-coverts and tail-feathers ash-grey; point of the wing, and all the wing-coverts white; wing-primaries nearly black; secondaries and tertials white; lower part of neck in front, and all the under surface of the body delicate reddish-buff; legs and toes orange-red, the webs rather darker; the whole length of the bird twenty-six inches and a half; from the point of the wing to the end of the longest quill-feather eleven inches.

In the female the bill and irides like those of the male, but not so bright in colour; head and upper part of the neck reddish-brown; the occipital feathers elongated; the back, scapulars, tertials, wing-coverts, rump, upper-tail-coverts and tail-feathers ash-grey; wing-primaries lead-grey; the secondaries white; chin and lower part of the neck in front white; breast, and under surface of the body tinged with buff; sides and flanks ash-grey; legs and feet orange-red. The female is rather smaller than the male.

The young birds in their plumage resemble the female, but young males in this state may be readily ascertained by feeling down the neck in the line of the windpipe with the finger and thumb; males have two enlargements on the tube, which females do not possess, their windpipe being uniform in size throughout its length. Young males do not assume the plumage by which that sex is distinguished till the second year.



NATATORES. *COLYMBIDÆ.*



THE GREAT-CRESTED GREBE.

Podiceps cristatus.

Podiceps cristatus,	*Great-crested Grebe,*	Penn. Brit. Zool. vol. ii. p. 130.
,, ,,	,, *tippet* ,,	,, ,, ,, ,, 134.
,, ,,	,, *crested* ,,	Montagu. Ornith. Dict.
,, ,,	,, ,, ,,	Bewick, Brit. Birds, vol. ii. p. 161.
,, *urinator,*	,, *tippet* ,,	,, ,, ,, ,, 163.
,, *cristatus,*	,, *crested* ,,	Flem. Brit. An. p. 131.
,, ,,	,, ,, ,,	Selby, Brit. Ornith. vol. ii. p. 394.
,, ,,	,, ,, ,,	Jenyns, Brit. Vert. p. 251.
,, ,,	,, ,, ,,	Gould, Birds of Europe, pt. ix.
,, ,,	*Grêbe huppé,*	Temm. Man. d'Ornith. vol ii. p. 717.

Podiceps. *Generic Characters.* — Bill of moderate length, straight, hard, slightly compressed, pointed, forming an elongated cone. Nostrils lateral, concave, oblong, open in front and perforate, closed behind by a membrane. Legs and feet long, attached behind the centre of gravity ; tarsi very much compressed ; three toes in front, one behind ; anterior toes very much flattened, united at the base, surrounded by an extended membrane ; hind toe also flattened, articulated on the inner surface of the tarsus ; claws large, flat. No true tail. Wings short, first three primaries nearly equal in length, and the longest in the wing.

Of the true Divers among our British Birds the Grebes and Dabchicks belong to that division which more particularly frequent fresh water, and the Great-crested Grebe, the largest of the genus, is resident all the year in several parts of this country, which afford extensive surfaces of water, partly overgrown with reeds and other luxuriant aquatic vegetation, in which they find the required security. They breed, and remain all the year, or by far the greater part of it, on some of the lakes of Wales, on the meres of Shropshire and Cheshire; on the broads of Norfolk, and in the fens of Lincolnshire. They are seldom seen to fly or walk. Their wings are short and small, and the thighs and legs placed so far behind the centre of gravity, and so closely attached to the posterior part of their body, that they sit upright on the whole length of the tarsus, and their walk is constrained. If the bird is seen on land it is generally close to the edge of the water, into which, if disturbed, it passes with little or no noise to attract observation. They are mostly seen on the water; the form of the whole bird being that of an elongated cone, is admirably adapted for diving, and their habits can only be observed by those who live in the vicinity of their favourite pools.

I have been favoured by the Rev. Richard Lubbock with notes on the habits of some of the various divers, as observed on the broads of Norfolk, where the Great-crested Grebe is called a Loon, and of which species it is stated that they are persecuted from a double motive; for the beauty of their plumage, and because they are considered to be enemies to fish. A pair or two are to be found on most of the extensive pools during spring, summer, and autumn, but they move over towards the arms of the sea as winter approaches, not remaining to be frozen out, and return early in spring. The nest is frequently built in an exposed situation, before the young reeds have sprouted sufficiently to conceal it. When the nest is plundered the bird immediately makes another in the vicinity and lays again. The birds are more prone to take flight in spring than at other seasons of the year, but as soon as the eggs are deposited in the nest, both male and female seem to trust entirely to their powers of diving for preservation, and very seldom show themselves. They generally dive away from their nest on being disturbed, and thus frequently escape observation ; a slight vibration among the reeds being the only sign of their departure. The nest is composed of half-rotten decaying water-plants, nearly level with the surface of the water, and is generally very wet. The eggs are usually four in number, white, and two inches two lines long, by one inch and six lines in breadth. The parent birds are very careful of their young, taking them down with them for security under their wings when they dive. They feed them with young eels, and other small fish, some small crustacea, and a portion of vegetable food. Tadpoles and small frogs are favourite diet with them.

A fine adult specimen belonging to the Ornithological Society, has been kept on the canal in St. James's Park more than twelve months. This bird has carried a good crest, unaltered throughout the whole of last winter ; and at this time, May 1842, the crest is of large size and fine in colour. Unfortunately the Society possess but a single example of the species, apparently a fine and old male. This bird does not associate with any of the other numerous water-fowl on the canal, he swims low in the water, and generally keeps out in the middle of the widest part, frequently diving for food, occasionally preening his plumage, and sometimes sleeps in mid-day, the head turned half round with the beak inserted and hid among the feathers on the back.

Of several examples of the Great-crested Grebe which I have examined internally, I never remember to have opened one, the stomach of which did not contain a portion of feathers which appeared to have been taken from the white under surface of their own bodies. The same thing has been noticed and recorded by others in the Magazine of Natural History.* This habit of swallowing feathers alone appears to be peculiar to the Grebes only, but from fish bones being occasionally found mixed up with the feathers, there is cause to suspect these birds bring up at will, from the stomach, the more indigestible parts of their last meal as hawks, owls, shrikes and some other birds are known to do.

The Great-crested Grebe is rather rare in some parts of the south of England, but has been seen occasionally in Devon and Cornwall; Mr. Dillwyn has noticed it in Glamorganshire; and Mr. Eyton in Shropshire and North Wales. A young bird in its first winter was shot on the Thames at Penton-hook near Laleham, Middlesex, in February 1844. Mr. Thompson says it is resident in Ireland on the larger lakes; Mr. Heysham has recorded the capture of both old and young in Cumberland; and Mr. Macgillivray, now of Aberdeen, in his recently published Manual of the Water-birds of Great Britain and Ireland, says it is more numerous in Scotland during winter than summer.

Of the Grebes in Scandinavia, Mr. Dann sends me word, that, with the exception of the Red-necked species, next to be described, they are confined to the south of Sweden. In Norway they only appear as stragglers, and then generally on or near the coast. M. Nilsson, the Swedish naturalist, says the Great-crested Grebe breeds in their lakes ; it is found on some of the large reeded lakes of Russia and Siberia; it is abundant in Germany, Holland, and France, in Provence, and Italy, at Corfu, Sicily and Malta; it is found also at Tangiers, and Dr. Smith brought examples from South Africa. The Zoological Society have received specimens from Smyrna and Trebizond; it has been observed about Mount Caucasus and in several parts of Asia.

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* Volume vi. page 519, and vol. ix. pp. 202 and 326.

The under surface of the body of this bird being of a delicate silvery whiteness, and of a shining silky appearance, one of the names of this well known bird is that of Satin Grebe; and skins, from the beauty of their appearance, are in great request for making into muffs for ladies, or more frequently to cut up into narrow strips as trimming for pelisses. A good skin sells for six or eight francs on the continent, and in the vicinity of the Lake of Geneva, which is frequented in autumn by these birds, it is usual for sportsmen to make parties on the lake to obtain specimens by shooting. This sport, called *La chasse du Grebe*, is referred to by M. Necker, in his paper on the birds of Geneva, and has been described to me by an English gentleman who had pursued the amusement.

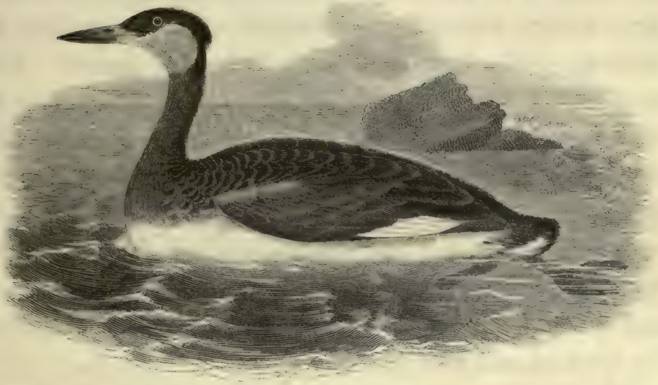
A party of four, as shooters, hire a boat with able rowers, and on a calm day, when the surface of the lake is smooth, they put off, and look out with telescopes for a large Grebe, towards which the men row; on their approach the bird dives, and the boatmen pull with vigour in the direction the bird has taken, in order to be near it when it comes up to the surface to breathe. One of the shooters stations himself in the bow of the boat, one at the stern, and the others are at each side, about the middle, in order that one or the other may be in a position to take the shot as soon as the bird is visible. At the commencement of the pursuit, when the bird is strong, it frequently comes to the surface of the water, out of shooting distance, and has perhaps altered its course, but a good look-out being kept by the shooters at their different posts, the bird is soon descried, and the rowers again urge the boat in chace ; the bird dives again, and is again pursued, and on rising is perhaps shot at, but at too great a distance to be effectual, and the bird dives again. In this way the chace is kept up for a time ; the bird, partly exhausted by the necessity of maintaining its exertions, and perhaps slightly wounded, is unable to remain so long under water, but the boat is close at hand, the exertion must be continued, and the Grebe still rises and dives again with so much rapidity that several unsuccessful shots are frequently made. The rowers from practice calculating the length of time the chace has lasted, can tell very nearly whenever the bird dives how many strokes of the oars will bring the boat near the place where it may be expected to rise, and by giving out this notice and counting aloud, the interest is kept up throughout the pursuit, till a fortunate shot gives the fatal blow, when the prize is handed into the boat, and the telescopes again put into requisition to find out a new victim.

Dr. Richardson found this bird during summer on most of the lakes of the fur-countries of North America, and the species is included in the histories of the Birds of the United States.

In the adult male the bird is brownish-red; the irides red; the top of the head, and the elongated feathers of that portion of the crest on the crown of the head, rich dark brown; the cheeks white; the long feathers forming together the tippet, and part of the crest standing out from the sides of the neck are reddish-chestnut at the base, becoming dark chestnut at the end; the neck behind, as also the back, wings, rump, and the short tuft-like tail, dark brown; the secondaries white, but this colour is little seen unless the wings are extended; front of neck, and all the under surface of the body delicate and shining silky white, from which, as before mentioned, this species is sometimes called the Satin Grebe; sides beneath the wing and the flanks pale chestnut-brown; legs and toes dark green on the outer flat surface, lighter pale yellowish-green on the inner surface; the whole length twenty-one to twenty-two inches. From the carpal joint to the end of the longest feathers eight inches. The crest is borne constantly throughout the year.

Adult females do not differ much from old males, except that they are not quite so large in size; the crest is also a little smaller, and the general colours of the whole plumage less pure.

Young birds in their first winter, and during part of their second year, have but small crests, and little or no reddish-chestnut colour. For some time after they are hatched the young chicks have their bills mottled black and white: the head and neck ornamented with long dark stripes on a ground-colour of dull greyish-white; the upper surface of the body dark brown, with longitudinal stripes of light brown; the whole under surface white. A young bird of this species is figured at page 416.



THE RED-NECKED GREBE.

Podiceps rubricollis.

Podiceps rubricollis,	*Red-necked Grebe,*	PENN. Brit. Zool. vol. ii. p. 139.
„ „	„ „	MONTAGU, Ornith. Dict.
„ „	„ „	BEWICK, Brit. Birds, vol. ii. p. 169.
„ „	„ „	FLEM. Brit. An. p. 131.
„ „	„ „	SELBY, Brit. Ornith. vol. ii. p. 392.
„ „	„ „	JENYNS, Brit. Vert. p. 252.
„ „	„ „	GOULD, Birds of Europe, pt. vii.
„ „	*Grêbe jou-gris,*	TEMM. Man. d'Ornith. vol. ii. p. 720.

THE RED-NECKED GREBE is not found in this country so frequently as the Grebe last described; it is, moreover, a winter visiter only, and with this further difference, that young birds of the year are of much more frequent occurrence than adult specimens. It is easily distinguished, being intermediate in size between the Great-crested Grebe and the Horned, or Sclavonian Grebe, and differs from the other species found in this country, in having a much longer and stronger bill in proportion to the bulk of the bird, and the base of the bill is mostly yellow; this species is also considered to be more decidedly marine in its habits. Like the other Grebes it is an expert diver, and very difficult to obtain when at sea, or in other extensive waters where there is ample space to exercise its powers. It feeds on small fish and aquatic insects. The stomach of one examined by Montagu was found to be distended with its own feathers and small seeds. I am not aware of any record of the Red-necked Grebe breeding in this country. The nest is described as placed among aquatic herbage and reeds, being built of similar decayed materials; an egg, which I obtained from Hamburgh, is of a dull white colour tinged with green; two inches in length by one inch and four lines in breadth.

Mr. W. Thompson mentions that the Red-necked Grebe has been taken at Belfast, and in different parts of Ireland. It has been obtained in Cornwall, Devonshire and Dorsetshire. It has been killed more than once in East Kent; and Mr. Joseph Clarke sent me notice of one killed recently in Essex, near Saffron Walden, which is now preserved in the Museum there. Both old and young have been killed in the Fens of Cambridgeshire, and on the broads of Norfolk, but only in winter. Mr. Selby says it is not uncommon in winter on the coasts of Northumberland and Durham; and Mr. Macgillivray mentions having obtained it in the Frith of Forth.

M. Temminck states that this species is nowhere more abundant than in Holstein. It breeds on the lakes of Sweden; and I have been favoured by Mr. Dann with the following notes from his own observations of its habits still farther north in that direction. "The Red-necked Grebe is common during the breeding season on many of the shallow reedy lakes at the head of the Bothnian Gulf, particularly between Pitea and Lulea. They seem to be confined to the vicinity of the coast of the Baltic. I have never met with them anywhere in the interior of the country, except in Scona, and in the southern provinces of Sweden, although the whole of Northern Scandinavia abounds with lakes. The character of those lakes where alone I have seen and procured specimens of the Red-necked Grebe, so far north as latitude 66, is precisely similar to that of the broads in Norfolk and the meres of Holland, where some of the Grebes are so numerous. Swedish ornithologists have confined the locality of this Grebe to the southern parts of Sweden, but having procured the old and young birds in August, and seen them in considerable numbers two years in succession in the same localities, no doubt can exist but that they are regular visitants. The eggs I did not see, but the peasants on finding a nest are in the habit of leaving one egg, and the female will continue to lay, as long as one is left, until nature is exhausted. These Grebes are by no means shy, and when undisturbed amongst the reeds and grass, keep up an incessant croaking.

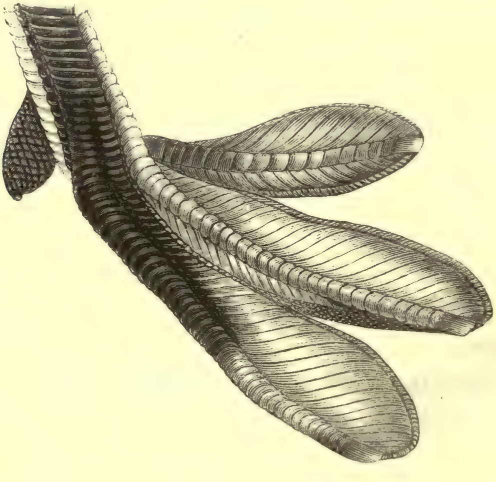
" They do not, like many of the divers, use their wings under water, but glide through it, however, with equal swiftness, and dart through thick entangled masses of weeds and grass with the ease and rapidity of a fish. From the very weedy nature of the waters they invariably frequent, using their wings in diving would impede their progress. I have had repeated opportunities of observing them when under water."

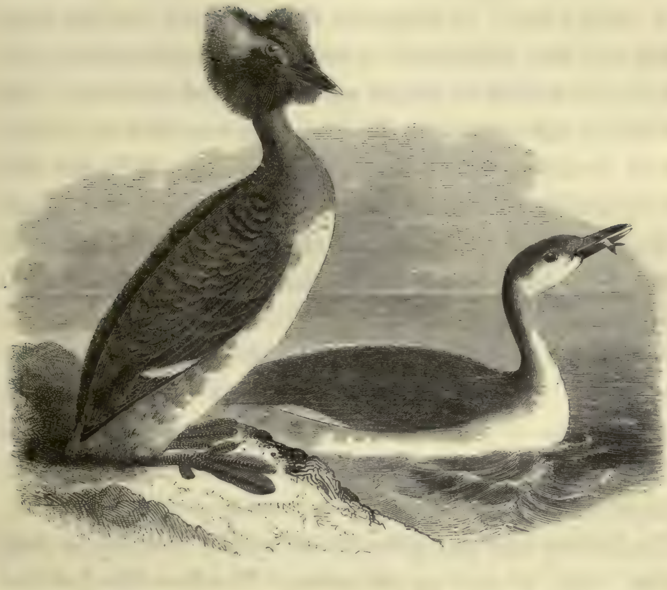
The Red-necked Grebe is found in the eastern parts of Europe, and in Germany, Holland, France, Switzerland, Provence, and Italy. Messrs. Dickson and Ross sent the Zoological Society specimens from Erzeroom. M. Temminck says the same species is found in Japan ; it is found also in North America.

The adult bird has both mandibles of the beak black, except at the base, where it is yellow; the irides red; top of the head, and back of the neck, rich dark brown, almost black; cheeks, chin, and throat, fine bluish-grey, margined with white; back, wing-coverts, tertials and rump, dark brown; wing-primaries nearly black; the secondaries white; neck in front rich chestnut-red; breast and belly silky white; sides under the wing, the flanks, and under tail-coverts greyish-brown; legs and toes dark greenish-brown on the outer surface, the inner surface greenish-yellow; the whole length sixteen inches and a half. From the carpal joint to the end of the primaries seven inches.

Young birds have the head and neck behind dusky-brown; the back and wings neither so dark in the brown colour, nor so uniform in the tint, as in the adult birds, the margins of the feathers being ash-brown; chin, throat, and neck in front greyish-white; other parts as in the more adult birds. I have seen young birds more than half grown which exhibited longitudinal dark stripes on a light ground-colour down the neck.

The figure below represents the form of the foot in the Grebes.





THE SCLAVONIAN GREBE.

Podiceps cornutus.

Podiceps	*cornutus,*	*Sclavonian*	*Grebe,*	Penn. Brit. Zool. vol. ii. p. 141.
"	*obscurus,*	*Dusky*	"	" " " 136.
"	*cornutus,*	*Sclavonian*	"	Montagu, Ornith. Dict.
"	*obscurus,*	*Dusky*	"	" " "
"	"	"	"	Bewick, Brit. Birds, vol. ii. p. 167.
"	*cornutus,*	*Horned*	"	Flem. Brit. An. p. 131.
"	"	"	"	Selby, Brit. Ornith. vol. ii. p. 397.
"	"	*Sclavonian*	"	Jenyns, Brit. Vert. p. 252.
"	"	*Horned*	"	Gould, Birds of Europe, pt. viii.
"	"	*Grêbe cornu ou Esclavon,*		Temm. Man. d'Ornith. vol. ii. p. 721.

The Sclavonian Grebe, called also, as shown by the synonyms, the Horned and Dusky Grebe, is rather a rare bird here in summer, but occurs occasionally in the winter months in the state of plumage under which it is called the

Dusky Grebe. The species was first described as British by Colonel Montagu, from an example obtained at Truro, in May, 1796. It frequents the coast and the few fenny districts that yet remain in some parts of this country. It is not uncommon in several parts of Ireland in winter. Mr. Dillwyn has noticed a specimen that was shot at Penrice, near Swansea, by C. R. M. Talbot, Esq., M.P. for Glamorganshire. It has been killed in Cornwall and Devonshire. I have notes sent me of several killed in Sussex, and have met with it in the London market, but only in winter, or very early in spring. The finest specimen I ever saw was purchased when fresh killed by my friend Mr. John Morgan, in May, 1826, of a dealer from Yarmouth, who, if I recollect rightly, obtained it from one of those boatmen that fish and shoot on the broads in that neighbourhood. This specimen was preserved by Mr. Leadbeater, and was given to me by Mr. Morgan in July, 1827, when he gave up collecting. The Rev. Mr. Lubbock sends me word that this species is not uncommon on the Norfolk broads in winter. It occurs, as might be expected, in Lincolnshire; and Mr. Selby has obtained it on the coasts of Durham and Northumberland. Dr. Fleming considered that this species was resident all the year in Scotland, but I can find no record of its having been found breeding there; they appear to go to higher northern latitudes. Mr. Dunn, in his useful little book, says, "this beautiful species is extremely rare both in Orkney and Shetland. I cannot say whether it is a constant resident in these countries or only migratory. During my stay in the former place I saw seven or eight, three of which I shot; this was in the month of April, and they were then in bad plumage. I have only seen one in Shetland, which I fortunately killed; it was on my last visit, about the latter end of May, and was in the most perfect plumage ; indeed I never saw so fine a specimen. This Grebe differs from any other in having the irides of two colours. It is a very shy bird, and a most expert diver, frequenting the sea, but always remaining close to the rocks, where the sea-weed which is attached to the land floats on the surface of the water. When once alarmed it dives to a great distance, and on coming to the surface immediately takes wing. The young of this bird, known by the name of the Dusky Grebe, is very rare in both countries. I have seen very few, and these only in spring, on the lakes near to, or communicating with, the sea. Two or three pairs used to frequent the Loch of Stenness, in the neighbourhood of Stromness."

Mr. Proctor, subcurator of the Durham University Museum, visited Iceland in the summer of 1837, and observed that, "this bird frequents the fresh waters there, and breeds amidst the reeds and other rank herbage. The nest is large, and floats on the surface of the water, with which it rises, and falls. It is composed of a mass of reeds and other aquatic plants. The eggs vary in number from two to four, and are, when just laid, of a bluish white ; but they soon become stained by the materials of which the nest is composed. The size of the egg is one inch and three-quarters long, by one inch and one quarter in breadth. The young birds, when first hatched, are covered with grey coloured down. No sooner does the old bird perceive danger from any intruder, than she instantly dives, and emerges at thirty or forty yards' distance. One day during my sojourn in Iceland, having observed one of these birds dive from its nest, I placed myself with my gun at my shoulder, waiting its re-appearance. As soon as it emerged I fired and killed it, and was surprised to see two young ones, which it seems had been concealed beneath the wings of the parent bird, drop upon the water. I afterwards shot several other birds of this species, all of which dived with their young under their wings. The young were placed with their heads towards the tail, and their bills resting on the back of the parent bird."

M. Nilsson says this species is not very common in Sweden, but breeds there in the reedy parts of shallow waters. M. Temminck says it is rare in Holland, but more common in Germany and the eastern parts of Europe; it is found also in France, Switzerland, Provence, Italy, Sicily and Malta, but only in winter, and that rarely. It is said to have been found in the vicinity of the Caspian Sea.

This species also inhabits North America. The bird figured by Edwards, plate 145, was sent from Hudson's Bay, where, Pennant says, it appears on the fresh waters in June, and lays its eggs among the aquatic plants. Dr. Richardson says it is very common in the Fur-countries, frequenting every lake with grassy borders. The species is included also in some of the histories of the birds of the United States.

Mr. Morgan's bird killed in May, in the plumage of the breeding-season, has the beak black, both mandibles of horn-coloured white at the tip; forehead and crown black; irides vermilion-red; from the base of the upper mandible to the eye, and from thence for the space of an inch behind the eye, the feathers are of a rich yellowish-chestnut, the latter elongated forming a tuft; from the chin the feathers on the throat, cheeks, and sides of the neck, are also elongated, forming a ruff of rich dark brown; back of the neck, and all the upper surface of the body dark brown; the secondaries of the wings alone are white, but scarcely seen unless the wings are extended; neck in front rich reddish-chestnut, becoming rather darker towards the bottom; breast and belly shining silvery-white; sides under the wings, and the flanks dusky, mixed with some chestnut streaks; legs and toes dark greenish-brown outside, varied with yellowish-green on the edges and inner surface. The whole length of the bird rather more than thirteen inches. From the carpal joint to the end of the wing five inches and a half.

In winter the beak and irides as described in summer; the upper part of the head dark brown; the lower part with the chin pure white, a line from the gape to the eye, and from thence along the lower edge of the ear-coverts, being the line of division between the two colours; back of neck and upper surface of the body dark brown; lower part of the neck in front greyish-white; under surface of body and legs as in summer.

The figure of the male in summer plumage in the illustration at the head of this subject, was taken from the specimen given me by Mr. Morgan, and my note made on an examination of the internal parts of this specimen, as mentioned by the Rev. L. Jenyn's, in his "Manual of the British Vertebrate Animals," page 253, was, stomach membrano-muscular, cæcal appendages each one inch and a half in length. The other figure, in the state, as to plumage, in which it is called the Dusky Grebe, was taken from a specimen obtained in the London market in March 1825, and now also in my own collection. My note of the internal appearance of this bird was, stomach muscular, a true gizzard, contained insects,* two long cæcal appendages from four to five inches each. From the difference in the substance of the parieties of the stomach in these two specimens, and particularly in the comparative length of the cæcal appendages, I was at first induced to suppose that Montagu and the Editor of the last edition of Pennant's British Zoology were correct in considering the Sclavonian Grebe distinct from the Dusky Grebe, but I am now inclined to believe that though the specimen killed in summer plumage was adult, the other was still an older bird. I find the cæcal appendages in *Podiceps cristatus*, killed in its first winter, when six months old, only half an inch long; but in an old bird these appendages measure two inches in length.

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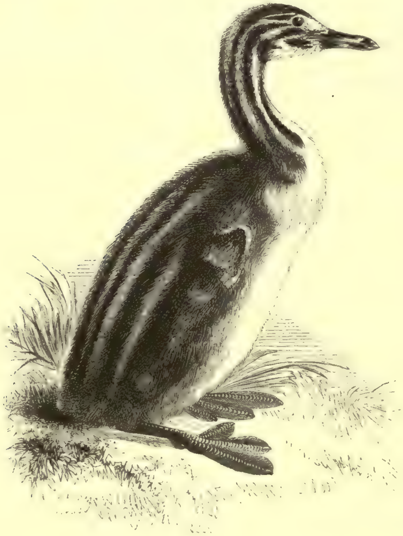
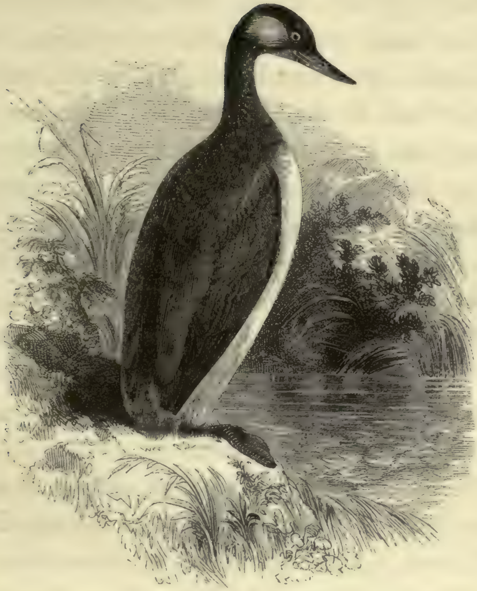
* Dr. Fleming, in his History of British Animals, page 132, says, "In the stomach of a young male, shot 18th January, 1809, I found a concretion upwards, of half an inch in diameter, consisting of its own belly feathers, closely matted

The figure below is that of the young of the Great-crested Grebe.

together. Montagu, in his Supplement, states that he has observed the same occurrence in the Red-necked and Crested species. Are these to be considered as analogous to bezoars?"





THE EARED GREBE.

Podiceps auritus.

Podiceps auritus,	*The Eared Grebe,*	Penn. Brit. Zool. vol. ii. p. 135.
„ „	„ „	Montagu, Ornith. Dict.
„ „	„ „	Bewick, Brit. Birds, vol. ii. p. 165.
„ „	„ „	Flem. Brit. An. p. 132.
„ „	„ „	Selby, Brit. Ornith. vol. ii. p. 399.
„ „	„ „	Jenyns, Brit. Vert. p. 253.
„ „	„ „	Gould, Birds of Europe, pt. i.
„ „	*Grêbe oreillard,*	Temm. Man. d'Ornith. vol. ii. p. 725.

Of the five species of Grebes found in the British Islands, the Eared Grebe appears to be the most rare. Colonel Montagu mentions that during the many years he devoted attention to ornithology he only obtained one specimen, and the opportunity of examining a recently-killed bird is quite accidental. This species is distinguished from the Grebe last described by being a little smaller in size; in having the bill bent slightly upwards, the curve being most conspicuous in the lower mandible; and in the lore, or part between the base of the bill and the eye, never carrying any ferruginous feathers at any age or season. The reddish, or golden-yellow feathers, when present, arise behind the eye, covering the orifice of the ears. In its habits it appears to resemble the Sclavonian Grebe; it feeds on small fishes, aquatic insects, and some fresh-water plants; hiding itself and making its nest among thick herbage. The eggs are mostly three or four in number, of a dull yellowish-white, one inch nine lines in length, by one inch and three lines in breadth.

Mr. Thompson says this species occurs, though but rarely, in Ireland. Colonel Montagu obtained one in Cornwall; and it has been killed in Dorsetshire, and in Sussex. The bird figured by Edwards in his Gleanings, plate 96, figure 2, was taken in a pond at Hampstead, near London; and Mr. Bond gave me notice of two that were killed in 1841, on the Kingsbury reservoir. Mr. Joseph Clarke sent me an account of one that was taken alive on Duxford common field, and it is included in the catalogues of the Birds of Norfolk and Suffolk. Pennant states that in his time it inhabited the fens near Spalding, in Lincolnshire. Mr. Selby obtains it occasionally in winter on the coast of Northumberland; it is found also occasionally in the lake counties on the western side of England. Mr. Macgillivray says he has rarely met with it in Scotland, and it is not included among the birds found in Orkney or in Shetland.

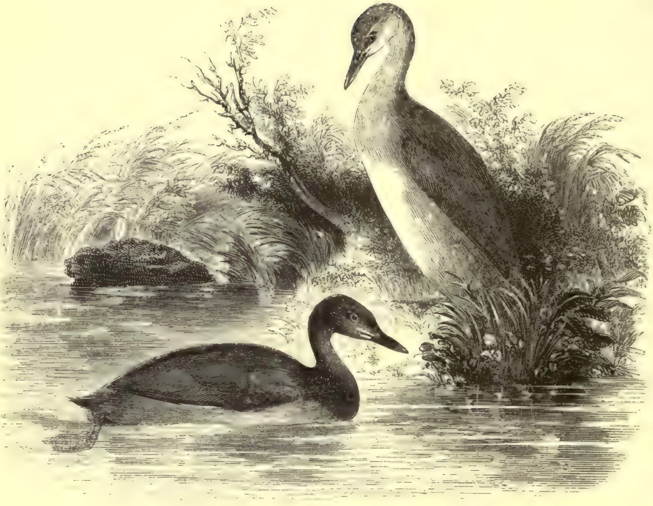
Faber describes it in his account of the Birds of Iceland;

M. Nilsson says it breeds in Sweden, but only rarely. Linnæus, in his tour in Lapland, mentions having met with it near Lycksele, and in other parts of the north of Europe it is said to inhabit lakes, rivers, and pools, where-ever aquatic herbage is abundant. It is found in Russia, Siberia, and Germany; it is rare in Holland and France, but visits the lakes of Switzerland, Provence, Italy, Corfu, and Sicily. M. Temminck, in the 4th part of his Manual says it is rather common in the Adriatic, and in the Bay of Cagliari, one of the ports of Sardinia. Messrs. Dickson and Ross sent the Zoological Society a specimen from Trebizond. Finally, this bird is said to inhabit the Falkland Islands and some parts of the United States.

The adult male in summer has the beak of a dusky-lead colour, almost black, the tip of the lower mandible only being horny-white; the irides red; head and neck all round nearly black; chin speckled with grey; from behind the eye over the ear-coverts a triangular patch of reddish-chestnut; back, and all the upper surface of the body, dark brown; secondary wing-feathers white, but scarcely seen unless the wing is extended; breast, and under surface of the body, pure and shining silvery-white; sides under the wings, and the flanks, chestnut, mixed with dusky lines; legs dark green on the outside, lighter green within. The whole length twelve inches. From the carpal joint to the end of the wing five inches.

Females and young birds in winter so nearly resemble those of the so-called Dusky Grebe, figured and described in the account given of the last species, except in size, and in the form of the beak, as to make another description unnecessary.

NATATORES. *COLYMBIDÆ.*



THE LITTLE GREBE, OR DABCHICK.

Podiceps minor.

Podiceps minor,	*The Little Grebe,*	Penn. Brit. Zool. vol. ii. p. 137.
,, *hebridicus,*	*Black-chin* ,,	,, ,, ,, ,, 138.
,, *minor,*	*Little* ,,	Montagu, Ornith. Dict.
,, *hebridicus,*	*Black-chin* ,,	,, ,, ,,
,, *minor,*	*Little* ,,	Bewick, Brit. Birds, vol. ii. p. 171.
,, *hebridicus,*	*Black-chin* ,,	,, ,, ,, ,, 172.
,, *minor,*	*Little* ,,	Flem. Brit. An. p. 132.
,, ,,	,, ,,	Selby, Brit. Ornith. vol. ii. p. 401.
,, ,,	,, ,,	Jenyns, Brit. Vert. p. 254.
,, ,,	,, ,,	Gould, Birds of Europe, pt. ii.
,, ,,	*Grêbe castagneux,*	Temm. Man. d'Ornith. vol. ii. p. 727.

The Little Grebe, or Dabchick, as it is more generally called, is the smallest, as well as the most common, of the British Grebes. It remains here throughout the whole year, inhabiting rush-grown lakes or fish-ponds, and the reedy parts of most rivers during summer, but in winter it is more frequent on small streams. In some of these situations, depending on the season, it may be frequently observed busily engaged on the surface in search of food, or diving to shelter itself for security if disturbed by too close an approach. Though occasionally seen to use its wings when flapping along the top of the water, its powers of flight appear to be limited, and in walking its progression is still more embarrassed; it is, therefore, very seldom found on land, except close to the edge of the water, into which it returns on the slightest alarm, perfectly conscious that water alone affords it the required protection.

Its food consists of small fishes, aquatic insects, with some vegetable substances; and a few of its own soft feathers from the under part of the body are usually found in its stomach. Mr. Selby remarks, "During winter, when the ponds and brooks become frozen, Dabchicks betake themselves to the mouths of rivers and small retired bays, where they feed upon shrimps, fry of fish, and marine insects. At this season I have several times caught them in Budle Bay, on the coast of Northumberland, when they happen to be left in small pools after the recess of the tide. Having first dived, they afterwards invariably endeavoured to conceal themselves among the fronds of the algæ, rarely attempting to escape by flight." Nares, in his Glossary, says that the term Didapper, applied to the Dabchick in some counties, means a little diver.

Like the other species of this genus, the Little Grebe breeds among the reeds and coarse herbage of the waters it inhabits, and, considering the small size of the birds, forms a large flat nest of aquatic plants, in which from four to six eggs are usually deposited. These are one inch seven lines in length, by one inch three lines in breadth. When first laid they are perfectly white, but soon become stained with greenish-yellow and brown, from being in contact with decaying vegetable matter, and the soil from the feet of the bird; by hatching-time they are frequently of a dirty clay-brown. The female is very careful of her eggs, and seldom leaves them without covering them over with some of the vegetable substances by which she is surrounded, and I quite agree with Mr. Selby, that the object in thus covering the eggs is concealment, and not for the purpose of preserving temperature during incubation. The young when first hatched are dark brown on the head, neck, and upper surface, streaked longitudinally with light yellowish-brown on the neck and back, the under surface of the body silvery-white. They take to the water very soon, swimming about with the parents in pursuit of aquatic insects and other food; or diving to avoid danger with all the apparent facility and confidence that usually attend long practice.

The Little Grebe is common and resident in Ireland, and too universally distributed in localities suited to its habits in England, to render particular enumeration necessary. In Scotland this small species is not considered to be so plentiful as with us in the south. Mr. Selby mentions that it was met with occasionally upon the smaller lochs of Sutherlandshire during the natural-history excursion through that county in the summer of 1834. It is found also in Orkney and in Shetland.

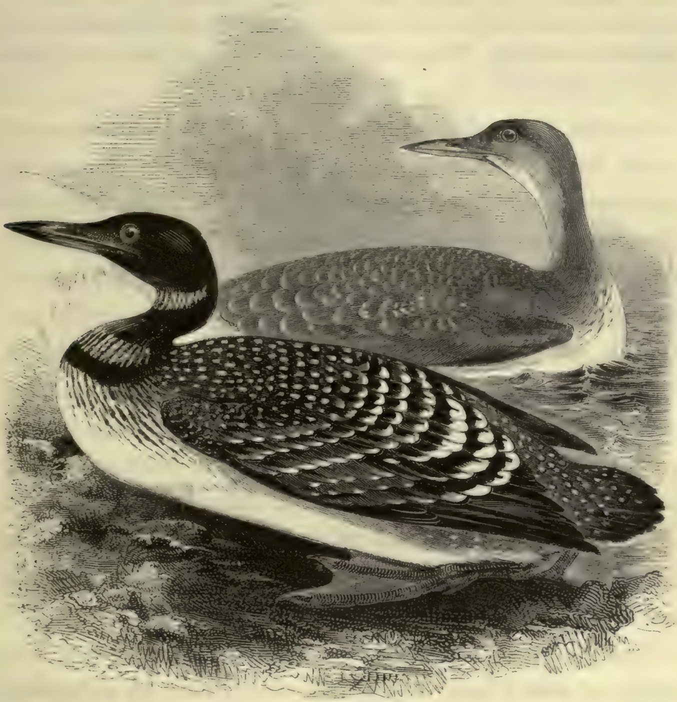
M. Nilsson considers the Little Grebe to be rather rare in Sweden; it is found in some other parts of the north of Europe, and in Germany, but it is not common, M. Temminck says, either in Holland or France. It is said by M. Schinz to be abundant on the ponds and lakes of Switzerland all the year; it is found also in Provence and in Italy; at Corfu, Sicily and Malta.

Our Little Grebe is included in catalogues of the birds of several parts of India; but, according to M. Temminck, the small species found in Africa and at the Philippine Islands is not identical with the *Podiceps minor* of European authors; nor is this species found in North America.

The adult bird in summer, represented in the illustration by the one which is swimming, has the beak black, the tip of a light horn colour, the upper mandible straight, the under mandible brought to a point by a line directed obliquely upwards from the symphysis, or junction of the two portions; the soft part of both mandibles, forming the angle at the gape, yellowish-white; irides reddish brown; head, back of the neck, and all the upper surface of the body, very dark brown, almost black; the secondary quill-feathers white, but these are not seen when the wings are closed; chin black; cheeks, sides and front of the upper part of the neck reddish-chestnut; under surface of the body dull greyish-white; sides under the wings and the flanks dusky brown; legs and toes dark greenish-brown. The whole length nine inches and a half. From the carpal joint to the end of the wing four inches and one quarter. In this state of plumage it is the *Podiceps hebridicus*, or Black-chin Grebe of authors, which is now known to be only the summer appearance of *Podiceps minor*, the Little Grebe.

Adult birds in winter have the under mandible lighter in colour than the upper; the latter being dark brown; head, back of the neck, and all the upper surface of the body, clove-brown; some of the primary quill-feathers, as well as the secondaries, greyish-white, but only seen when the wing is extended; chin white; front of the neck ash-brown; breast and belly shining greyish-white; sides under the wing and the flanks, ash-brown. Young birds of the year, in their first winter, have the beak yellow-brown; the head and back of a still lighter brown colour than old birds in winter; chin white; sides of the neck pale wood-brown; under surface of the body and the sides clouded with brown, on a ground colour of greyish-white.

NATATORES. *COLYMBIDÆ.*



THE GREAT NORTHERN DIVER.

Colymbus glacialis.

Colymbus	*glacialis,*	*Great Northern*	*Diver,*	**Penn.** Brit. Zool. vol. ii. p. 165.
”	*immer,*	*Imber*	”	” ” ” ” 167.
”	*glacialis,*	*Great Northern*	”	**Montagu,** Ornith. Dict.
”	*immer,*	*Imber*	”	” ” ”
”	*glacialis,*	*Great Northern*	”	**Bewick,** Brit. Birds, vol. ii. p. 196.
”	”	”	”	**Flem.** Brit. An. p. 132.
”	”	”	”	**Selby,** Brit. Ornith. vol. ii. p. 406.
”	”	”	”	**Jenyns,** Brit. Vert. p. 255.
”	”	”	”	**Gould,** Birds of Europe, pt. xiii.
”	”	*Plongeon imbrim,*		**Temm.** Man. d'Ornith. vol. ii. p. 910.

Colymbus. *Generic Characters.*—Bill about as long as the head; strong, straight, rather compressed, pointed; upper mandible the longer of the two, edges of both curving inwards. Nostrils basal, lateral, linear, perforate and partly closed by a membrane. Legs thin, the tarsi compressed, placed very far backwards, and closely attached to the posterior part of the body; toes three in front, united by membranes, one toe behind, with a small membrane, articulated upon the tarsus; the claws, or nails flat. Wings short, the first primary quill-feather the longest. Tail short and rounded.

Of the genus *Colymbus* there are three British species, called Divers, *par excellence*, since they possess this power in a most marked and perfect degree. Of these three, the Northern Diver, frequently called also the Great Northern Diver, is the largest in size, but of the specimens procured young birds are much more common than old matured examples, and even the former are only obtained in winter. Sir Thomas Browne says that in his time the Divers bred on the broads of Norfolk, but this is not the case at the present day, nor is it very certain that the Northern Diver breeds in any part of the British Islands now, even in Orkney or Shetland; but what has been ascertained on this subject will be adduced when enumerating the different localities in which it has been found.

Except during their breeding-season all the Divers live chiefly at sea, where they obtain their living by following, or keeping in the vicinity of shoals of herrings, sprats, and other species of fishes of moderate size, which they catch seemingly with great ease and certainty while diving, remaining under water a very considerable time without any apparent inconvenience, and have been taken, while thus submerged, by a baited hook.

Montagu, in the Appendix to the Supplement to his Ornithological Dictionary, says, " A Northern Diver taken alive, was kept in a pond for some months, which gave us an opportunity of attending to its manners. In a few days it became extremely docile, would come at the call from one side of the pond to the other, and would take food from the hand. The bird had received an injury in the head, which had deprived one eye of its sight, and the other was a little impaired; but, notwithstanding, it could, by incessantly diving, discover all the fish that was thrown into the pond. In defect of fish it would eat flesh. It is observable that the legs of this bird are so constructed and situated, as to render it incapable of walking upon them. This is probably the case with all the Divers, as well as the Grebes. When this bird quitted the water, it shoved its body along upon the ground like a seal, by jerks, rubbing the breast against the ground; and returned again to the water in a similar manner. In swimming and diving, the legs only are used, and not the wings, as in the Guillemot and Auk tribes; and by their situation so far behind, and their little deviation from the line of the body, it is enabled to propel itself in the water with great velocity in a straight line, as well as turn with astonishing quickness."

Mr. Thomas Nuttall, of Boston, who kept one for some time, gives the following account of its manners while in his possession:—"A young bird of this species which I obtained in the Salt Marsh at Chelsea Beach, and transferred to a fish-pond, made a good deal of plaint, and would sometimes wander out of his more natural element, and hide and bask in the grass. On these occasions he lay very still until nearly approached, and then slid into the pond and uttered his usual plaint. When out at a distance he made the same cautious efforts to hide, and would commonly defend himself in great anger, by darting at the intruder, and striking powerfully with his dagger-like bill. This bird with a pink coloured iris, like albinos, appeared to suffer from the glare of broad daylight, and was inclined to hide from its effects, but became very active towards the dusk of the evening. The pupil of the eye in this individual, like that of nocturnal animals, appeared indeed dilatable; and the one in question often put down his head and eyes into the water to observe the situation of his prey. This bird was a most expert and indefatigable diver, and remained down sometimes for several minutes, often swimming under water, and as it were flying with the velocity of an arrow in the air. Though at length inclining to become docile, and showing no alarm when visited, it constantly betrayed its wandering habits, and every night was found to have waddled to some hiding-place, where it seemed to prefer hunger to the loss of liberty, and never could be restrained from exercising its instinct to move onwards to some secure or more suitable asylum."

During their breeding-season the Northern Divers frequent islands, in lakes and pools of fresh water, forming a flattened nest of dead herbage, among reeds and flags, from eight or ten yards to a distance of forty yards from the water's edge. The frequent passage of the birds to and from their nest to the water, produces a path or track, by which the nest is sometimes discovered.

The eggs are usually two in number, but Mr. Audubon mentions, in his account of this species, that three eggs are sometimes deposited. These are of a dark olive-brown, with a few spots of umber-brown; the length of the egg three inches six lines, by two inches and three lines in breadth. The female when on her nest lies flat upon her eggs, and if disturbed by the too near approach of an intruder, makes her way to the water by scrambling, sliding, and pushing herself along, occasionally running with the body inclined forwards, the thighs being closely attached to the hinder part of the body, the motion is principally confined to the tarsi and toes. The water gained she immediately and invariably dives, rather than flies off, sometimes using the wings under water. Though its wings are short, the flight of the bird is strong and rapid, yet it always resorts to diving to effect an escape. Sir William Jardine says, "the Great Northern Diver is very frequent in the Frith of Forth, and there I have never been able either to make up with, or cause one to fly from the sea. I have pursued this bird in a Newhaven fishing-boat, with four sturdy rowers, and, notwithstanding it was kept almost constantly under water by firing as soon as it appeared, the boat could not succeed in making one yard upon it. They are sometimes caught in the herring-nets, and at set lines, when diving." Their voice is loud and plaintive, varied occasionally from a high note to a deep croak.

Mr. W. Thompson, of Belfast, says, the Northern Diver is a constant visiter to Ireland in winter, and it is on the coast at that season of the year that these birds are principally seen; but Dr. Fleming mentions having seen one of this species off the coast of Waterford, in the month of July, 1816. Mr. Eyton has noticed its appearance in North Wales; and Mr. Dillwyn has recorded the occurrence of this species in the vicinity of Swansea; they are not unusual also in winter on the coasts of Cornwall, Devon, and Dorset, in the south, and off the coasts of Kent and Essex on the east. From Suffolk to Northumberland young birds are common in winter, but old birds are rare, and all very difficult to obtain.

Mr. Heysham has recorded the capture of young birds in winter in Cumberland, on the rivers near the Solway, and in January, 1835, one was killed on Talkin Tarn, near Brampton. In his remarks on the Zoology of the Outer Hebrides, Mr. J. Macgillivray mentions that the Northern

Diver was plentiful until the beginning of June, when they all disappeared. In Sutherlandshire, Mr. Selby says, "that a single pair was seen in the Bay of Balnikiel, mouth of the Durness Frith, both adult birds, and in perfect summer plumage. It is probable that they had their nest upon one of the numerous islets that abound in the bay."

The Rev. George Low says, "the Great Northern Diver is very frequent around all the Orkneys, but especially in the bays and harbours, which it enters in pursuit of small fish, its only sustenance. The natural history of this and the following species (another Diver), is something paradoxical. Though they continue among these islands the whole season, I can find none to inform me how or where they breed." Mr. Robert Dunn, who has visited these islands several seasons in succession, says, "this beautiful bird is plentiful both in Orkney and Shetland, in winter and spring. It leaves about the latter end of May, by which time it has acquired its perfect summer plumage. It is extremely shy, and very difficult to get within shot of; it generally congregates in parties of four or five; it dives with the utmost facility, can remain a long time under water, and rises again at a great distance. In the act of diving it does not appear to make the least exertion, but sinks gradually under the surface without throwing itself forward, the head being the last part that disappears. It frequents the narrow inlets and sounds where there is a sandy bottom, and the best way to procure it is to secrete yourself amongst the rocks near the water's edge; by this means you will frequently get a shot at it, as it swims pretty close to the land in shallow water when feeding. It must be shot dead, for if only wounded your chance of getting it is very small. On my last visit to

Shetland, I saw a Northern Diver in Hammer Voe, in the parish of Northmaven, on the 28th of June; it was in perfect plumage, and I was informed it had been there all the summer. I presume it must have been wounded, or it would have left in the spring. It was remarkably shy; I tried several times to get a shot at it, but was unsuccessful."

Mr. Hewitson, when in Norway, saw the Great Northern Diver, though rarely, in the fiords of the west coast. Richard Dann, Esq. sent me word that the Northern Diver occasionally appears on the lakes and rivers in Tornea and Lulea Lapmark early in spring, on the first breaking up of the ice, but is a rare visitant. Although well known to the Laps, all agreed it appeared but seldom. It, in all probability, traverses Lapland on its passage east from the north-west coast of Norway. It breeds on some of the islands of Finmark, but is rarely seen in Sweden, except in winter. The Northern Diver breeds on the Faroe Islands, and Mr. Proctor thus notices what occurred to him, in reference to this species, on his recent visit to Iceland. It breeds on the lochs of fresh water about a day's journey from Myvatn; a single egg was deposited on the bare ground, but just out of water-mark, rather under a rugged bank on some broken ground. I was successful in finding two nests. I allowed the single egg to remain in one of them, in the expectation that another egg would be laid to it, but was disappointed. The old bird was very shy, and always left the egg on our approach, when at a great distance off, taking to the water and keeping so far from the side as not to be within shot.

The Great Northern Diver visits Spitzbergen and Greenland in summer; it was observed by Dr. Richardson and others on all the lakes of the interior of the Fur-countries of North America, and is said to breed as far north as the latitude of 70°, going southward for the winter season, and is well known and described by the ornithologists of the United States. Its flesh is dark, tough, and unpalatable.

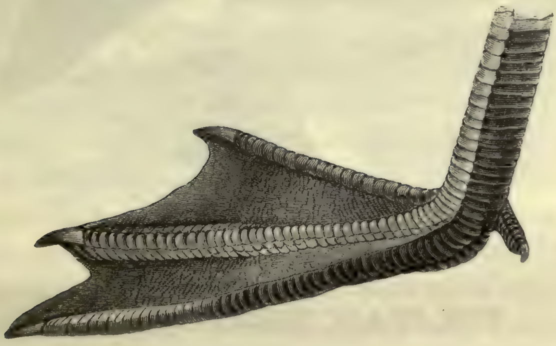
The Northern Diver, in its adult state, is a rare bird in Germany, France, or Switzerland. M. Savi says that one only, and that a young bird, had been taken in Italy in his knowledge. Mr. Gould states that it has been found as far south as latitude 36°. Young birds migrate farther than old ones.

The bird in its fully adult plumage has the beak black; the irides red; head, cheeks, and back of the neck black, the first with some tints of green and blue; the back also black, but most of the feathers ornamented with spots of white upon the black, those on the back with small square-shaped spots, the scapulars and tertials with larger white spots, which are also square, one on each side the shaft of the feather, forming transverse lines, the tertials also ending in white; on the wing-coverts, rump, and upper tail-coverts, the white spots are small; primaries and tail-feathers uniformly black without spots; chin, and neck in front black, varied with two collars of white, spotted with black; from these marks this species is sometimes called the Ring-necked Diver; lower part of the neck in front white, with short longitudinal stripes of black, upon white on the sides; breast and under surface of the body white; sides under the wing and the flanks greyish-white; legs, toes, and their membranes nearly black. The whole length from thirty to thirty-three inches. From the carpal joint to the end of the wing thirteen inches and three-quarters to fourteen inches. Females are smaller than males.

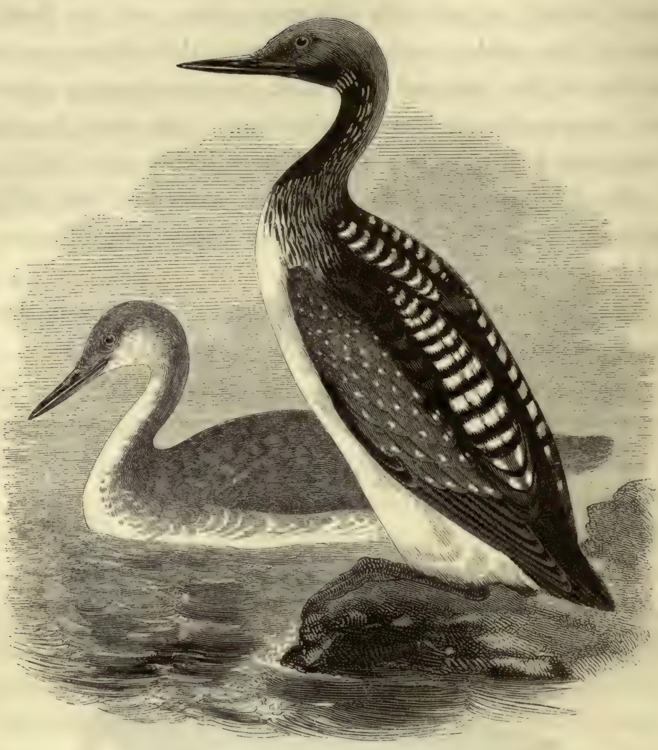
A young male, nearly full grown, killed in the winter, has the beak of a brownish-white horn colour; irides reddish-brown; head, back of the neck, and all the upper surface of the body greyish-black; all the feathers on the back broadly edged with ash-grey: chin, neck in front, and all the under surface of the body dull white; outer surface of the legs and toes dark greenish-brown; edges and inner surface lighter greenish-brown; the whole length thirty-one inches; of the wing thirteen inches and a half.

Mr. Audubon says "the young are covered at birth with a kind of black stiff down, and in a day or two after are led to the water by their mother."

The figure below represents the form of the foot in this genus of birds.



NATATORES. *COLYMBIDÆ.*



THE BLACK-THROATED DIVER.

Colymbus arcticus.

Colymbus arcticus,	*Black-throated Diver,*	Penn. Brit. Zool. vol. ii. p. 170.
,, ,,	,, ,,	Montagu, Ornith. Dict.
,, ,,	,, ,,	Bewick, Brit. Birds, vol. ii. p. 203.
	The Lesser Imber,	,, ,, ,, ,, 198.
,, ,,	*Black-throated Diver,*	Flem. Brit. An. p. 133.
,, ,,	,, ,,	Selby, Brit. Ornith. vol. ii. p. 411.
,, ,,	,, ,,	Jenyns, Brit. Vert. p. 256.
,, ,,	,, ,,	Gould, Birds of Europe, pt. xii.
,, ,,	*Plongeon à gorge noir,*	Temm. Man. d'Ornith. vol. ii. p. 913.

Of the three species of the genus *Colymbus*, known in this country, the Black-throated Diver is the most rare, occurring but seldom on the southern shores. Young birds have been taken in winter in Cornwall and Devonshire. In the London market young birds are occasionally to be met with, and during the winter of 1836, Mr. Bartlett purchased two, one of which was an adult bird with a fine black throat, this specimen was obtained in the month of January; the other was a young bird; Mr. S. Mummery, of Margate, has just sent me notice that a beautiful specimen was captured on the 2nd of June last, 1842, in Sandwich Haven, and this being a very fine male bird has been preserved, and deposited in the museum at Margate. I learn from the Rev. Richard Lubbock that in the year 1832, a fine pair were killed on one of the broads of Norfolk, which birds are now in the collection of Mr. Penrice; but that in Norfolk most of the examples of this species have been obtained in winter, and these were young birds. Mr. Willoughby has procured this species near Spilsby in Lincolnshire. On the shores of Durham and Northumberland, Mr. Selby considers the Black-throated Diver a rare winter visitant. In 1830 a fine mature specimen was killed at the mouth of the Tweed, and several young birds on different parts of the coast, and upon the river Tyne. Mr. Selby having had an opportunity of examining the bird from which Thomas Bewick engraved the figure of his Lesser Imber, has no doubt that it is the young of the year of this species.

In its habits the Black-throated Diver closely resembles the Northern Diver, last described; and we learn also from Mr. Selby some of the localities in Scotland in which the species has been found during summer. This gentleman observes "that it dives with the same ease and as perseveringly as the other species, and can remain long submerged, making very great progress during its submarine flight, as was experienced by Sir William Jardine and myself, when in chase of this bird in a light and handy boat upon Loch Awe. Our utmost exertion could never bring us within range, and we were often foiled by its returning on its former track, and re-appearing in a direction contrary to that in which it seemed to have dived. During this pursuit it was frequently lost for several minutes together, and came up nearly a quarter of a mile ahead, and its progress could not, I should think, have been much under the rate of eight miles in the hour. It lives upon fish, aquatic insects, and such other food as it procures under water. I have seen a pair upon Loch Awe towards the end of June, but did not succeed in detecting their place of nidification. When in Sutherlandshire we found this species upon most of the lochs of the interior. The first we noticed was at the foot of Loch Shin, where we were so fortunate as to find the nest, or rather the two eggs, upon the bare ground of a small islet, removed about ten or twelve feet from the water's edge. The female was seen in the act of incubation, sitting horizontally, and not in an upright position, upon the eggs. In plumage she precisely resembled the male, and when fired at immediately swam, or rather dived off to him at a short distance. Our pursuit after them was, however, ineffectual, though persevered in for a long time, as it was impossible to calculate where they were likely to rise after diving. Submersion frequently continued for nearly two minutes at a time, and they generally re-appeared at nearly a quarter of a mile's distance from the spot where they had gone down. In no instance have I ever seen them attempt to escape by taking wing. I may observe that a visible track from the water to the eggs was made by the female, whose progress upon land is effected by shuffling along upon her belly, propelled by her legs behind. On the day following, Saturday the 31st of May, Mr. J. Wilson was fortunate enough to find two newly hatched young ones in a small creek of Loch Craggie, about two and a half miles from Lairg. After handling and examining them, during which the old birds approached very near to him, he left them in the same spot, knowing that we were anxious to obtain the old birds. Accordingly on the Monday morning we had the boat conveyed to the loch, and, on our arrival, soon descried the two old birds attended by their young, and apparently moving to a different part of the loch. Contrary to their usual habit at other times, they did not attempt to dive upon our approach, but kept swimming around their young, which, from their tender age, were unable to make much way in the water, and we got sufficiently near to shoot both of them through the neck and head, the only parts accessible to shot, as they swim with the whole body nearly submerged. The female could only be distinguished from the male by a slight inferiority of size, and both were in the finest adult, or summer plumage. We afterwards saw several pairs upon various lochs, and upon Loch Kay a pair, attended by two young ones nearly half grown. When swimming, they are in the constant habit of dipping their bill in the water, with a graceful motion of the head and neck." The egg, measuring two inches and three-quarters in length, by one inch and ten lines in breadth, is of a dark olive-brown, thinly spotted with dark umber brown.

Mr. Thompson has recorded the occurrence of the Black-throated Diver in the north of Ireland ; and Mr J. Macgillivray states it as ascertained that it breeds in North Uist, one of the Outer Hebrides. The Rev. Mr. Low says that it is to be found in the sounds and bays of Orkney at all seasons, but Mr. Dunn who has visited both Orkney and Shetland several times lately, considers it now to be a rare bird at both places.

M. Nilsson says this species is common in Sweden in summer, breeding among grass and reeds on the margins of islands in lakes; leaving those places for the open sea in winter. Mr. Hewitson and his friends saw the Black-throated Diver occasionally in the fiords on the west coast of Norway. Richard Dann, Esq. sent me the following note:—"This beautiful Diver is widely and numerously dispersed over the whole of Scandinavia during the summer months, but it is most abundant in the northern parts. It breeds generally in the interior of the country on small islands, in the most secluded and retired lakes. In Lapland and in the Dofre Fiell mountains, it is found as high as the birch-tree grows. It makes its first appearance in the spring with the breaking up of the ice on the lakes. Within twelve hours of open water being seen, this bird never fails to show itself. The eggs are generally two in number. They are of a very rank fishy taste, but much sought after by the Laps. After the young are hatched both male and female are very assiduous in bringing them food, and at that period are much on the wing, and may be seen flying at a vast height, with fish in their beaks, from one lake to another; on arriving over the lake where they intend to alight, they descend very suddenly in an oblique direction. The cries of this Diver are very peculiar during the breeding-season, and may be heard at a great distance. This bird is very quick-sighted and difficult to approach, it takes wing with great reluctance, but dives incessantly, taking care to come up far out of shot. On the approach of winter the old birds retire to the west coast of Norway. They make their appearance in the southern parts but rarely. The young birds, however, migrate in considerable numbers to more temperate climes, and are found at that period in the open parts of the Baltic, in the Elbe, and on the coast of Holland."

Linnæus, in his Lapland tour, mentions having seen this bird at Lycksele, Lulea, and Tornea; caps are made of the skin of it, which is very tough when properly prepared. Linnæus observes, also, that this bird uttered a melancholy note; and Sir Arthur de Capel Brooke says its voice resembles that of a human being in distress. A few of this species are said to be found in Russia, and on the inland lakes of Siberia; it is not uncommon in winter in Holland, and some parts of Germany; is very rare in France, but young birds in winter have been sometimes by chance taken as far south as Switzerland, Provence, and Italy. M. Temminck says that specimens from Japan exactly agree with those found in Europe.

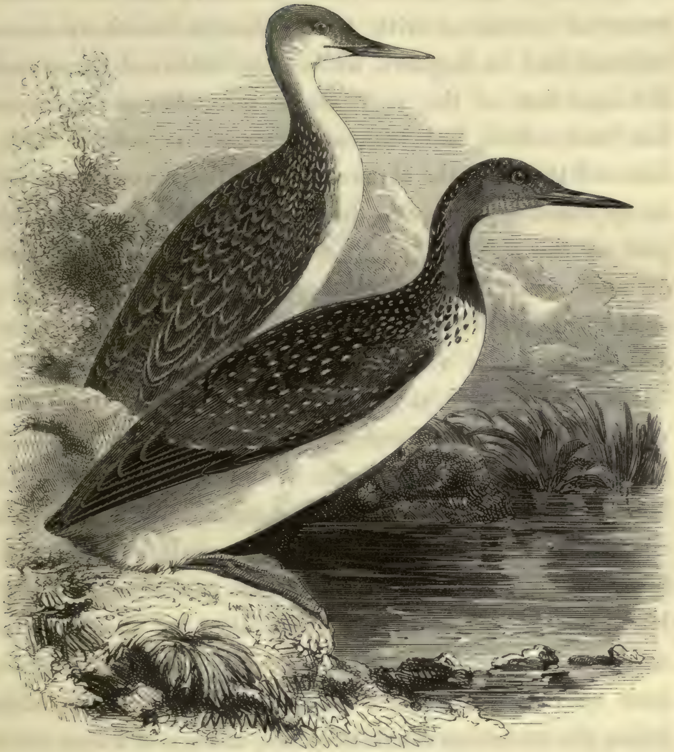
The Black-throated Diver is found in the United States. The bird figured from by Edwards was brought from Hudson's Bay, on the shores of which it is common. Sir Edward Parry brought home specimens from Melville Peninsula; and Dr. Richardson says that the skins of this and the other species of Divers, being tough and impervious to wet, are used by the Indians and Esquimaux as an article of dress.

In the adult bird the beak is dark bluish-black; in form slightly inclining upwards; the irides red; forehead dark grey, top of the head, and back of the neck light ash-grey; back, rump, and tail-feathers nearly black; inter-scapular and tertial-feathers with a square patch of white on each side of the shaft, forming a series of transverse bars; wing-coverts black, with a few specks of white; primary quill-feathers black; chin and throat black, divided by a half collar of short white lines; sides and bottom of the neck streaked longitudinally with black and white lines; breast, belly and all the under surface of the body, pure white; flanks and under tail-coverts dusky; legs and toes dark brown outside, lighter pale brown within. The whole length about twenty-six inches; wing from the carpal joint to the end of the primaries, eleven inches and a half. Females are but little smaller than males, and both sexes, when mature, have the throat black, as repeated internal examinations have proved. The Divers undergo a partial moult in the spring, and on the first assumption of the Black-throat it is generally varied with a few white feathers.

Young birds measure twenty-three or twenty-four inches in length, and closely resemble the young of the Northern Diver, except in size.

The form and structure of the legs and feet in these Divers, and also in the Grebes, are worthy of particular examination. Though almost useless on land, these members are most efficient instruments in the water. The bones are broad and flat, and almost as thin as the blade of a knife; when the backward stroke in swimming is given, the whole surface of all these bones and their investing membranes is brought to bear against the water; but when the leg is to be brought forward again to renew the impulse, the sharp edges only are opposed to the fluid, and the position, as well as the partially rotatory motion, remind the observer of the action of oars in rowing when used by skilful hands. Those who have the opportunity of examining the legs of a Diver, in a recently-killed specimen, while all the parts retain their perfect flexibility, will find a beautiful example of animal mechanics.

NATATORES. *COLYMBIDÆ.*



THE RED-THROATED DIVER.

Colymbus septentrionalis.

Colymbus	*septentrionalis,*	*Red-throated Diver,*		PENN. Brit. Zool. vol. ii. p. 169.
,,	*stellatus,*	*Speckled*	,,	,, ,, ,, ,, 168.
,,	*septentrionalis,*	*Red-throated*	,,	MONTAGU, Ornith. Dict.
,,	*stellatus,*	*Speckled*	,,	,, ,, ,,
,,	*septentrionalis,*	*Red-throated*	,,	BEWICK, Brit. Birds, vol. ii. p. 199.
,,	*stellatus,*	*First speckled*	,,	,, ,, ,, ,, 201.
,,		*Second speckled*	,,	,, ,, ,, ,, 202
,,	*septentrionalis,*	*Red-throated*	,,	FLEM. Brit. An. p. 133.
,,	,,	,,	,,	SELBY, Brit. Ornith. vol. ii. p. 414.
,,	,,	,,	,,	JENYNS, Brit. Vert. p. 257.
,,	,,	,,	,,	GOULD, Birds of Europe, pt. v.
,,	,,	*Plongeon à gorge rouge,*		TEMM. Man. d'Ornith. vol. ii. p. 916.

The Red-throated Diver is the smallest species of the genus, as well as the most common; and the occurrence of specimens with white throats in winter is so constant and so frequent, while those with red throats, at the same time of the year, are so rare, that the question has been asked, and with some reason, is not the dark-coloured throat in the three species of the genus Colymbus, an appearance peculiar to the breeding-season; but to this part of the subject I shall return before concluding the account of the Diver with the red throat.

Mr. William Thompson, of Belfast, considers this species a regular winter visitant to Ireland, and records it as having been killed at places on the north, the east, the west, and also at Youghal in the south. It has been killed on the coast of South Wales, as noticed by Mr. Dillwyn; it is very frequently observed and obtained in winter on the coasts of Cornwall and Devon. Colonel Hawker notices them on the coasts of Dorsetshire and Hampshire; specimens have been shot on the coast of Sussex; it is common about the estuary of the Thames, both on the Kentish and Essex sides, where these birds follow the numerous shoals of sprats, and are in consequence called the Sprat Loon. They are frequently caught in the nets. The term Loon, or Loom, appears to be a modification of the Laplanders' name, Lumme, which is said to mean lame, in reference to the bird's hobbling mode of progressing on land. In Norway the name of Lumme refers more particularly, almost exclusively, to the Black-throated Diver; but M. Nilsson in his Fauna of Scandinavia, calls all the three species by the name of Lom, distinguishing the Red-throated Diver, on account of its comparative want of size, by the name of Sma Lom. This species is very commonly exposed for sale in the London markets throughout the winter. The Rev. Richard Lubbock sends me word that on the broads of Norfolk many are seen, but very few are procured, the boat shooters leaving them unmolested; the diving powers of the bird causing only loss of time and labour.

Mr. Selby mentions that young birds in the plumage of their first winter, are much more common than older birds on the coasts of Durham and Northumberland, perhaps in the proportion of fifty to one; but that in Sutherlandshire adult birds were seen in June 1834, and though no eggs or young were obtained, it was evident from the conduct of the birds that they were breeding. On the western side Mr. Heysham of Carlisle mentions "that an adult Red-throated Diver, in nearly full summer-plumage, was caught in a stake-net on the coast on the first of May, 1834. Notwithstanding the period of the year, the bird was very much in moult." Pennant notices having seen a pair in July in the Hebrides, and Mr. J. Macgillivray, on his visit to the Outer Hebrides in the summer of 1840, observed this species on several of the lakes. The Rev. Mr. Low, in his "Natural History of Orkney," says, "this bird continues with us the whole season; builds on the very edge of a lake in the hills of Hoy; lays two eggs; its nest is placed so as it can slip from it into the water, as it can neither stand nor walk on land, but can make very quick way at sea; flies well, and commonly very high; makes a vast howling, and sometimes croaking, noise, which our country-folks say prognosticates rain, whence its name with us of the Rain-goose." Mr. Salmon, who visited Orkney with his brother in the summer of 1831, for the purpose of collecting the eggs of the different birds that resort there annually to incubate, mentions that "a few pairs of the Red-throated Diver annually breed on the margins of the small lochs that are to be found amid the hills in the island of Hoy. Although we visited every loch in the island, we were not fortunate enough to meet with its egg; and are indebted to the son of the Rev. Mr. Hamilton, who very kindly presented us with a specimen that he had taken from a nest the preceding summer. He informed us, at the same time, that they were becoming very scarce; and although he had, at different times, found their eggs, he never saw two in one nest, which is always placed close to the water's edge, and composed merely of a few loose rushes and dried grass that may happen to be near, without any down or feathers whatever." Mr. Robert Dunn finds this species, as Dr. Fleming had previously observed, breeding in Shetland, and in reference to their habits says, "On the banks of the lakes they lay their eggs close to the water's edge, so close, indeed, that the bird can touch the water with its bill while sitting on its eggs; perhaps these birds have the power of removing their eggs from their proximity to the water; for were it to be swollen only two or three inches in height the eggs would be destroyed. I have taken their eggs several times, and invariably found them not more than two or three inches from the water's edge. The female lays two eggs, which in general are deposited amongst a few loose stones. The birds are remarkably shy, particularly during the breeding-season, and if any one approaches the lake, instantly leave their nests and take to the water. To procure these birds two or three persons should go together, never less than two; one should secrete himself close to the water, and the other move round to the opposite side, and letting himself be seen, may, by great caution, drive the birds towards the person in ambush. I have practised this method repeatedly with success. It requires more patience and caution in shooting these birds than any others I know of, excepting the Northern Diver; for in general they select such a place for the site of incubation, as from its natural situation will admit of their perceiving any one that approaches; and very often after creeping a great distance on your hands and knees towards a lake, believing yourself unobserved, on arriving there you have the mortification to find the object of your search is on the side exactly opposite to you." Mr. Hewitson, when on the west coast of Norway, saw this species often, upon almost every piece of water, and frequently heard their loud singular scream in an evening at a great distance. My friend, Richard Dann, Esq., sent me the following note: "This Diver is far more common here than the Black-throated. On the west coast of Norway it is very abundant from the Naze to the North Cape. In the Lapland Alps, in the Dofre Fiell, and in the interior of Sweden, it is equally numerous. In August, 1838, I saw on the great Tornea Lake, the source of the Tornea river, thirty in a flock, and all old birds. Although so common, it is rarely one sees the young before they are able to fly; their habits and mode of feeding their young are similar to those of the Black-throated Diver. Their cries are very mournful and melancholy. During the breeding-season, while on the wing, they utter frequently a sound like the word *kakera*, *kakera*, by which name they are called in many parts of Scandinavia. The red neck disappears in the winter, a darker hue only marking the space occupied by the red. The eggs are of a dirty greenish hue." The eggs of this bird in my own collection measure two inches eight lines in length, by one inch ten lines in breadth; of a dark greenish-brown when fresh laid, rather thickly spotted with dark umber-brown; but the ground colour changes a little and assumes a chestnut, or dark reddish-brown tint when the egg has been long incubated.

It will thus be seen that in its habits and food this species very closely resembles the other two already described. It is found at the Faroe Islands and at Iceland. At the latter place Mr. Proctor saw small flocks of twenty or twenty-five together, but not a White-throated bird among them. Mr. Proctor suspected they were all old males; the females were then engaged in incubation. The Red-throated Diver has been seen as far north as Nova Zembla, and was found, as stated by Captain James C. Ross, at Boothia, and in every part of the Arctic regions visited by the late expeditions.

Of this bird Mr. Audubon says, "the Red-throated Diver is found, in tolerable abundance, on the sea-coast of the United States during autumn, winter, and early spring, from Maryland to the extremities of Maine. The younger the birds the farther south do they proceed to spend the winter, and it is rare to see an old bird, of either sex, at any season to the south of the Bay of Boston. Farther eastward they become more common, and they may be said to be plentiful towards the entrance of the Bay of Fundy, in the vicinity of which a few remain and breed. I found some in December, January, and February, at Boston, where I procured males, females, and young birds. The old had the red patch on the throat darker than in the breeding-season; the delicate grey and white lines on the neck were as pure as I observed them to be during summer in Labrador; and I have since been convinced that birds of this family undergo very little if any change of colouring after they have once acquired their perfect plumage, the Loon and the Black-throated Diver being included in this remark."

East of our own shores the Red-throated Diver, in its immature state, or winter dress, is taken on the coasts of Holland and Picardy; it has been taken also in Switzerland, Provence, and Italy. A single example is sometimes taken in winter in Sicily and Malta. M. Temminck states that this species also occurs in Japan.

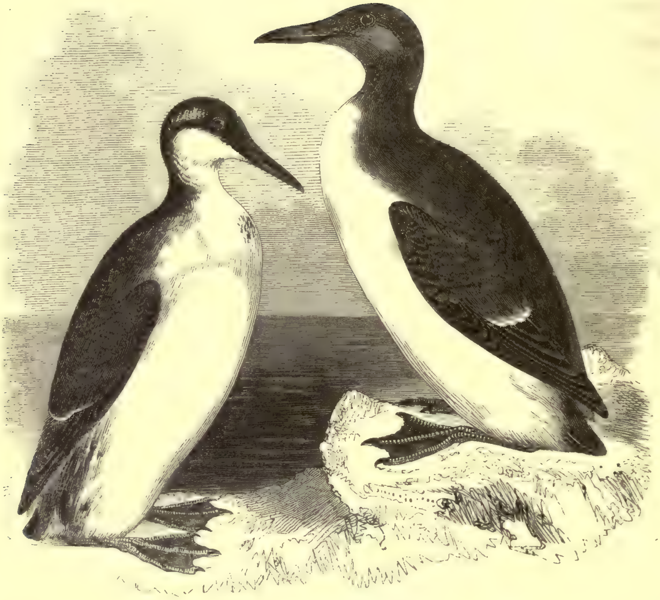
In the adult bird the beak is of a bluish horn colour; the irides red; the front and top of the head, chin, cheeks, and sides of the neck ash-grey, varied with lighter grey lines and spots; back of the neck almost black, with short longitudinal lines of white; the scapulars, wing-coverts, back and upper tail-coverts nearly black, speckled with white; quill-primaries black, without spots or streaks; on the throat the red colour forms a conical patch, the point of which is directed upwards, the base resting on the breast, which is white; all the under surface of the body white; flanks greyish-black; legs, toes, and their membranes dark brown on one surface, pale wood-brown on the other. Male birds measure twenty-four inches in length, and sometimes rather more; from the carpal joint to the end of the longest quill-feather eleven inches and a half. Females are usually smaller, some measuring only twenty-one inches in length, and but ten inches and a quarter from the wrist to the end of the quill-feather. A female specimen in my own collection, killed in April 1822, has the red feathers on the throat mixed with some that are white.

Colonel Sabine, in his Supplement to the Appendix of the first Arctic voyage of Sir Edward Parry, says of the Red-throated Diver, " that it breeds in the neighbourhood of fresh-water ponds on the shores of Baffin's Bay, and Davis' Straits. The young birds, killed in September, were in the plumage in which they have been called

C. stellatus; but when nestlings, the feathers of the back, scapulars, and wing-coverts, were margined with white." This is precisely the case in the young bird from which the upper figure in our illustration was taken, and is the smallest specimen I possess. The white border is first interrupted at the extreme end of the feather, leaving the white marks as two long lateral lines. These lines of white diminish in length by degrees, leaving only one white spot on each outer edge of the feather; the term *striatus*, used by some authors, would therefore appear to refer to an earlier stage of plumage than the word *stellatus*, and of the Speckled Divers of Bewick, the second Speckled Diver is, I believe, the younger bird of the two.

Montagu, in his Supplement, says that both sexes have been killed in winter with the red throat; and Mr. Audubon and Mr. Dann mention that the throat remains of a dark colour during winter, apparently confirming the opinion that having once acquired a dark-coloured throat they do not afterwards lose it at any season. M. Temminck, in the 4th part of his Manual, states it as now ascertained that the Divers have a double moult in the year; and Mr. Heysham's specimen, as well as others, have been found to be in moult in the spring. This is certainly in favour of a temporary assumption of colour. Mr. Selby mentions that, of the numbers which visit our shores in winter, adult specimens might perhaps be estimated at not more than one in fifty; this seems a very large proportion of young birds, when we consider that these Divers breed but once in a summer, and seldom bring up more than two young birds; sometimes only one. Mr. Proctor saw flocks of Divers when at Iceland, in the middle of summer, but not one of them had a white throat, nor can I find any record of the capture of Divers with a white throat in summer, except very late in that season in Norway, and these were two small and young birds of the year, only two or three months old. The few Divers obtained with dark-coloured throats in winter, compared to the number of those taken having white throats, seem to make the former rather the exception than the rule, and I have known a specimen of our common Tern, killed in December, with a black head, thus, perhaps from some morbid cause, carrying the strongest mark of its breeding-plumage through the winter.

NATATORES. *ALCADÆ.*



THE COMMON GUILLEMOT,

WILLOCK, OR TINKERSHERE.

Uria troile.

Uria troile,	*Foolish Guillemot,*	Penn. Brit. Zool. vol. ii. p. 160.
„ „	*Lesser* „	„ „ „ „ 162.
„ „	*Foolish* „	Montagu, Ornith. Dict.
„ *minor,*	*Lesser* „	„ „ „
„ *troile,*	*Foolish* „	Bewick, Brit. Birds, vol. ii. p. 188.
„ *minor,*	*Lesser* „	„ „ „ „ 190.
„ *troile,*	*Foolish* „	Flem. Brit. An. p. 134.
„ „	„ „	Selby, Brit. Ornith. vol. ii. p. 420.
„ „	„ „	Jenyns, Brit. Vert. p. 258.
„ „	„ „	Gould, Birds of Europe, pt. ix.
„ „	*Guillemot à capuchon,*	Temm. Man. d'Ornith. vol. ii. p. 921.

Uria. *Generic Characters.*—Bill of moderate length, strong, straight, pointed, compressed; upper mandible slightly curved near the point, with a small indentation or notch in the edge on each side. Nostrils basal, lateral, concave, pierced longitudinally, partly closed by membrane, which is also partly covered with feathers. Feet short, placed behind the centre of gravity in the body; legs slender, feet with only three toes, all in front, entirely webbed. Wings short, first quill-feather the longest. Tail short.

The birds of this genus, and of the Alcadæ in general, bear considerable resemblance to the Divers both in form and habits; they are oceanic birds that can swim and dive well, and in this way obtain small fishes of various sorts, or still smaller crustacea, as food.

The Common Guillemot, or Foolish Guillemot, as it is frequently called, is one of the best known of the species, and may be seen in the tide-way of the open sea all round our coast at any season; but as their numbers are there dispersed over an extensive surface, these birds are best observed during their breeding-season, when they assemble by hundreds, or thousands more frequently, on many of the most extensive and highest rocks and cliffs that bound our sea-girt islands.

About the beginning of May the Common Guillemots, with many other species of birds, frequenting rocks at that season, to be hereafter described, converge to particular points, where, from the numbers that congregate, and the bustle apparent among them, confusion of interests and localities might be expected; but on the contrary, it will be found that the Guillemots occupy one station, or line of ledges on the rock; the Razorbills another; the Puffins a third; Kittiwake Gulls a fourth: whilst the most inaccessible pinnacles seem to be left for the use of the Lesser Black-backed and the Herring Gulls. Two distinct species scarcely ever breed close by the side of each other.

The Common Guillemot lays only a single egg, but this is of large size, and very variable in colour, scarcely two being found precisely alike, but generally of a fine bluish-green, more or less blotched and streaked with dark reddish-brown, or black; sometimes these markings are distributed over a white ground colour, and I have seen the eggs of this species of a plain green or white colour, without any secondary markings; the form of the egg is that of an elongated handsome pear, measuring three inches and a quarter in length, by one inch and eleven lines in breadth at the larger end. The eggs of the Guillemot are readily distinguished from those of the Razorbill, with which they are most likely to be mixed, by the length to which the smaller end of the former is drawn out. Large quantities of these and various other rock-birds' eggs are collected at different parts of the coast by fishermen and their sons, who let themselves down, or are let down by others, over the edge of the cliff with one or two ropes fixed to a strong iron crow-bar driven into the ground above. These men, from practice, traverse narrow ledges of the rock, picking up the eggs along a path of only a few inches in breadth with steadiness and certainty. The Guillemot makes no nest, and the female sits in an upright position upon her single egg during incubation, which lasts for a month. The young birds, at first covered with down, or bristly hair rather, from the manner in which it resists saturation with water, are fed for a time on the rocks by the parent birds with portions of fish. Mr. Waterton, in his account of his visit to the rock-bird-breeding localities about Flamborough Head, says, " the men there assured me that when the young Guillemot gets to a certain size, it manages to climb upon the back of the old bird, which conveys it down to the ocean. Having carried a good telescope with me, through it I saw numbers of young Guillemots diving and sporting on the sea, quite unable to fly; and I observed others on the ledges of the rocks as I went down among them, in such situations that, had they attempted to fall into the waves beneath, they would have been killed by striking against the projecting points of the intervening sharp and rugged rocks; wherefore I concluded that the information of the rock-climbers was to be depended upon." In further proof of the truth of their statement, I may mention that I have seen on the sea, at the base of the very high cliffs at the Isle of Wight, between the needle-rocks and Freshwater gate, the young of the Guillemot and Razorbill so small, that they could not have made the descent by themselves from the lofty site of their birth-place without destruction; yet these little birds knew perfectly well how to take care of themselves, and at the approach of a boat would swim away, and dive in various directions like so many Dabchicks. By the end of August, or early in September, both parents and offspring have quitted the rocks for that year, and for a time remain both night and day on the open water, far from land, till the circle of seasons induces another visit to the rocks.

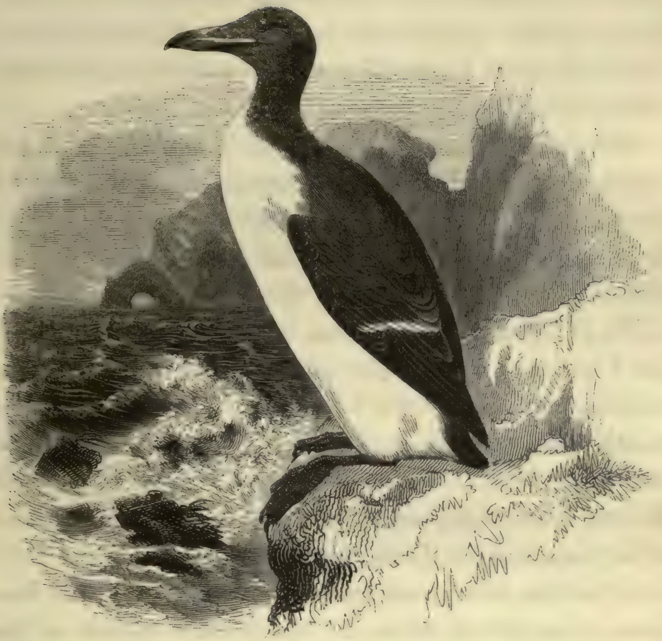
This species remains also about the rocks and bays of Orkney and Shetland all the year, and has been found in summer in various parts of Scandinavia, at the Faroe Islands, Iceland, in the Arctic Seas as far north as Nova Zembla, Spitzbergen, and by Sir Edward Parry, and Captain James C. Ross, when on their perilous journey northward over the ice, as high as latitude 81°. East and south-east of England the Common Guillemot is found on the coasts of Holland and France; it is not included among the birds of Nice or Italy, by M. Risso or Savi. The Prince of Canino, in his catalogue of the birds found at Rome, only considers its occurrence there as accidental. and it very rarely appears so far south as the Mediterranean.

These birds have a partial moult in the spring, besides the entire moult in autumn, and while changing the wing-primaries they are said to be for a time wholly incapable of flight. When killed here in summer the bill is black; the inside of the mouth orange; the irides very dark brown; head, neck all round, at the upper part, and on the sides and hind part below, the back, tail, and wings, except the tips of the secondaries, sooty black; lower part of neck in front, and all the under surface of the body pure white; legs, toes, and their membranes dark brownish-black; the whole length of a male bird about eighteen inches; the wing, from the wrist to the end of the longest quill-feather, seven inches and a half. Females are rather smaller than males.

The young Guillemot, on its first appearance, has the chin and the throat in front white, the neck in front below slightly varied with a few black hairs, which are lost on the bird's gaining its first true feathers.

The figure on the left hand in our illustration was taken from a young bird of the year, killed in its first winter; in this state of plumage they resemble the winter plumage of adult birds in higher northern latitudes, but are distinguished from old birds by their smaller beak; the throat remains white till the spring-moult produces the appearance observed in our other figure, the ordinary plumage of summer.

NATATORES. *ALCADÆ.*



BRUNNICH'S GUILLEMOT,

THE THICK-BILLED GUILLEMOT.

Uria Brunnichii.

Uria Brunnichii,	*Brunnich's Guillemot,*	Flem. Brit. An. p. 134.
" "	" "	Jenyns, Brit. Vert. p. 258.
" "	" "	Gould, Birds of Europe, pt. xxii.
" "	*Guillemot à gros bec,*	Temm. Man. d'Ornith. vol. ii. p. 924.

This species was first described by Brunnich, in his *Ornithologia Borealis*, page 27, species 109, under the name of *Uria Troile*, the author having previously called our common Guillemot *Uria* Lomvia. An alteration of the specific term being thus rendered necessary, Colonel Sabine very properly devoted this Guillemot to the memory of Brunnich by name, and some interesting remarks on the early history of this species will be found in Colonel Sabine's " Memoir of the Birds of Greenland," published in the 12th volume of the Transactions of the Linnean Society.

Brunnich's Guillemot is at once distinguished, at any season of the year, from our Common Guillemot, by the shortness, the stoutness, angularity, and greater depth of its bill; and our present subject has been called the Thick-billed Guillemot in reference to this peculiarity.

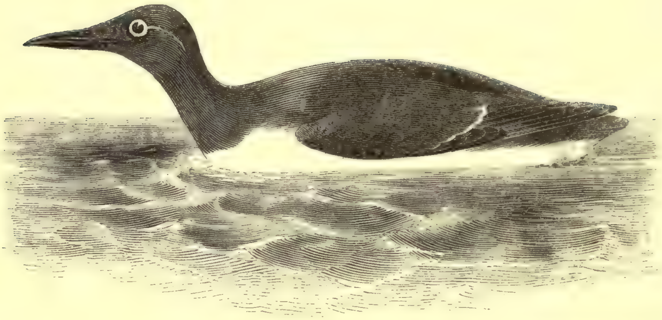
Mr. W. Thompson of Belfast, in his published Report on the Vertebrata of Ireland, mentions that the *Uria Brunnichii* is noticed by Colonel Sabine as seen by him in the month of July on the coast of Kerry, where it may be presumed to breed. Captain James C. Ross, in his last Natural History appendix, published in 1835, says he met with this species at Unst, the most northern of the Shetland Islands, and in several parts of Scotland; and Professor Macgillivray refers, in the second volume of his Manual, to a specimen now preserved in the Edinburgh University, which was received with other skins from Orkney.

Professor Nilsson includes this species in his Fauna of Scandinavia, and considers it the *Alca pica* of Fabricius; it is found also at the Faroe Islands and Iceland, at Spitzbergen, Greenland, Davis' Straits, Baffin's Bay, and the Arctic Seas. Southward in Europe, one example, a young bird, according to M. Temminck, has been killed in the vicinity of Naples, and is there preserved.

In its habits and food, as far as known, Brunnich's Guillemot does not differ from the Common Guillemot, and I am not aware of distinctions in the eggs, if any exist.

A specimen of the bird now before me, brought from Iceland by Mr. Proctor, agrees exactly with Colonel Sabine's description of this species in its summer-plumage. The beak is black, its shape has been referred to, the posterior half of the marginal portion of the upper mandible nearly white, extending from the corner of the mouth to the point where the feathers project on the bill ; the irides dark ; head, throat, neck behind, back, wings, and tail sooty black ; secondaries tipped with white ; belly, and all beneath pure white, running up to a point on the front of the neck ; in the Common Guillemot the white colour ends here in the form of a rounded arch ; legs, toes, and their membranes brownish-black. The whole length eighteen inches. From the wrist to the end of the longest quill-feather eight inches and a quarter. The sexes are alike in plumage.

This species undergoes the same changes of plumage from season as the *U. troile.* Colonel Sabine remarks that specimens killed early in June had the throat and neck white, unmixed with black ; towards the end of June the change was in progress, and by the second week in July, as many were found in perfect summer-plumage, with black throats and necks, as were still in change. M. Temminck says the young assume, in March, their first summer-plumage. Adult birds lose their black throat at the autumn moult.



THE RINGED GUILLEMOT,

OR THE BRIDLED GUILLEMOT.

Uria lacrymans.

Uria lacrymans,	*Bridled Guillemot,*	Gould, Birds of Europe, pt. xxii.
" "	*Guillemot bridé,*	Temm. Man. d'Ornith. vol. iv. p. 577.

Of this Guillemot Mr. Gould observes, in his Birds of Europe above-quoted, " although we have figured this bird under the name of *lacrymans*, we are doubtful of its specific value, bearing as it does so close a resemblance to the common species, *Uria troile*, and from which it differs only in the white mark which encircles the eyes, and passes down the sides of the head. It inhabits the same localities, and is often found in company with the common species, and that too on various parts of our coast, particularly those of Wales, where, we have been informed, both kinds are equally numerous. It was first described as distinct by Choris, who states that it is abundant at

Spitzbergen, and the neighbouring seas. By M. Temminck and the French naturalists the two birds are considered to be distinct, and as such we have figured them."

Examples of the Ringed Guillemot have been taken in Lincolnshire, Yorkshire, and Durham, on the east coast, and in Cornwall and Wales in the south.

In the fourth part of his Manual, page 577, M. Temminck says, "MM. Faber et Graba, qui ont séjourné en Islande et à Féroë, assurent que le *Guillemot bridé* et celui *à gros bec* ne sont que des variétés du *Guillemot à capuchon* (*Uria troile*). Je suis très-porté à admettre leur opinion, basée sur des observations faites sur les lieux par des juges compétens. Toutefois, il se pourrait que ses races voisines fussent mêlées et confondues exactement par les mêmes causes et de la même manière que celles des *Corvus corax* et *leucophæus* ; *Cornix* et *Corone* ; *Monedula* et *Spermogulus* ; *Fringilla domestica* et *cisalpina*," etc.

In reference to the first part of this paragraph, it may be stated, that since the true specific distinctions of Brunnich's Guillemot have been pointed out, namely, the form and greater size of the anterior portion of the bill, and the broad light-coloured stripe along the posterior half of the margin of the upper mandible, no one that I am aware of has considered it to be only a variety ; and if it is intended that the claims of the Bridled Guillemot to be ranked as a species, are equal to that of the Brunnichii, then will both be entitled to be considered as species and not as varieties.

The meaning of the latter part of the paragraph is to me also somewhat doubtful ; but that the Ringed Guillemot is not a hybrid produced between the Common Guillemot and the Brunnichii, seems proved by two circumstances ; first, that the beak of the Ringed Guillemot is even rather more slender than that of the Common Guillemot, which would scarcely be expected to happen if the Brunnich's Guillemot were one of the parents; and secondly, by the well-known fact that the Ringed Guillemots are abundantly fertile, breeding by themselves.

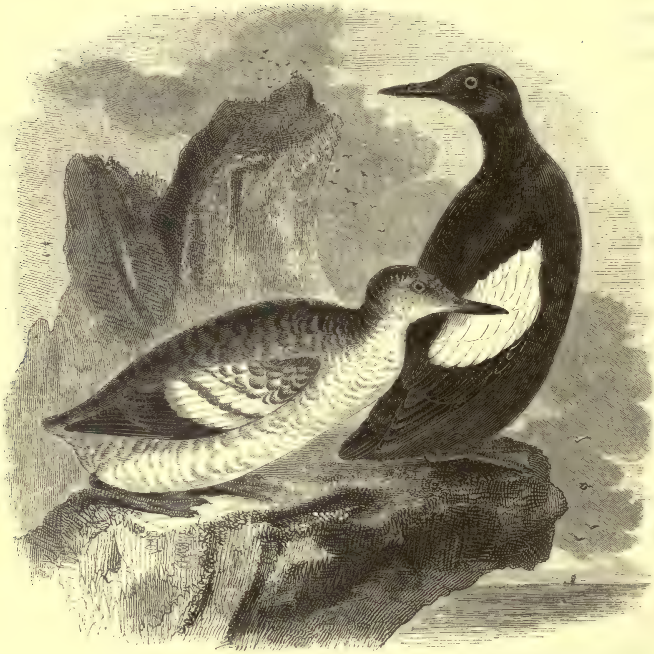
But M. Temminck, in his fourth part already cited, further says:—"M. Thieneman, qui a également parcouru l'Islande et le Nord, dans le but d'étudier les productions de ces contrées, est d'avis que ces oiseaux forment trois espèces distinctes; il indique même des différences constantes dans la couleur des œufs." In reference to the value of the opinion of M. Thieneman, I can quote that of Mr. Proctor of Durham, who, having visited the breeding-stations of these birds at Iceland, agrees with him precisely.

I am indebted to Mr. Proctor, the subcurator of the Durham University Museum, for the opportunity of examining specimens of these three Guillemots, all brought from Iceland, and obtained at the same time. Mr. Proctor went to Iceland a few summers since to collect birds, and on enquiring for the Ringed Guillemot, was told by fishermen that they knew the bird very well, and that it would be found breeding at Grimsey, an island about forty miles north of Iceland. An arrangement to visit Grimsey was made, and on reaching the island the species of Guillemots were found then breeding on the different rocks, and were considered by the inhabitants of the island to be distinct species. Brunnich's Guillemot was the most numerous, and was called by them *Stutnefia*. The Common Guillemot was the next in order of quantity, and was called *Langnefia*. The Ringed Guillemot was the least numerous, and its name was *Hringlangnefia*. The eggs of all the three species were obtained, and the distinctions between them well known to these fishermen, who separated them, when put together, without difficulty or hesitation. The eggs of the Ringed Guillemot were the most rare, not so much on account of the smaller number of the parent birds, as from the circumstance of these birds breeding away from the others, far lower down on the rocks, and they were consequently much more difficult to obtain by those lowered down from the top of the rocks. The natives of Grimsey further testified, not in words, but by placing the birds in pairs together, and by separating others when one of each were placed together as a pair, that the Common Guillemot, and the Ringed Guillemot do not breed one with the other, but each sort by themselves.

M. Nilsson, professor of Natural History at Lund, in his Fauna of Scandinavia, considers the Ringed Guillemot only as a variety of the Common Guillemot; but as it appears that the most weighty evidence is in favour of its being a species, rather than a variety, I have given it a place in this work.

An adult bird in its breeding-plumage, obtained at Grimsey Island, has the beak black, rather more slender in form than that of the Common Guillemot obtained at the same locality; the irides dark; all round the eye a narrow ring of pure white, and a line of the same colour about an inch and a half long, passing from the eye backwards and downwards on the neck; head, chin, throat, upper part of neck all round, lower portion of neck behind, back, wings, and tail dull greyish-black; tips of secondaries, and all the under surface of the body white; legs, toes, and membranes brownish-black. The whole length about eighteen inches; the wing, from the joint to the end eight inches.

NATATORES. *ALCADÆ.*



THE BLACK GUILLEMOT.

Uria grylle.

Uria	*grylle,*	*Black Guillemot,*	Penn. Brit. Zool. vol. ii. p. 163.
,,	,,	,, ,,	Montagu, Ornith. Dict.
,,	,,	*Spotted* ,,	,, ,, ,,
,,	,,	*Black* ,,	Bewick, Brit. Birds, vol. ii. p 192.
,,	,,	*Spotted* ,,	,, ,, ,, ,, 194.
Cephus	,,	*Common Scraber,*	Flem. Brit. An. p. 134.
Uria	,,	*Black Guillemot,*	Selby, Brit. Ornith. vol. ii. p. 426.
,,	,,	,, ,,	Jenyns, Brit. Vert. p. 258.
,,	,,	,, ,,	Gould, Birds of Europe, pt. xv.
,,	,,	*Guillemot à miroir blanc,*	Temm. Man. d'Ornith. vol. ii. p. 925.

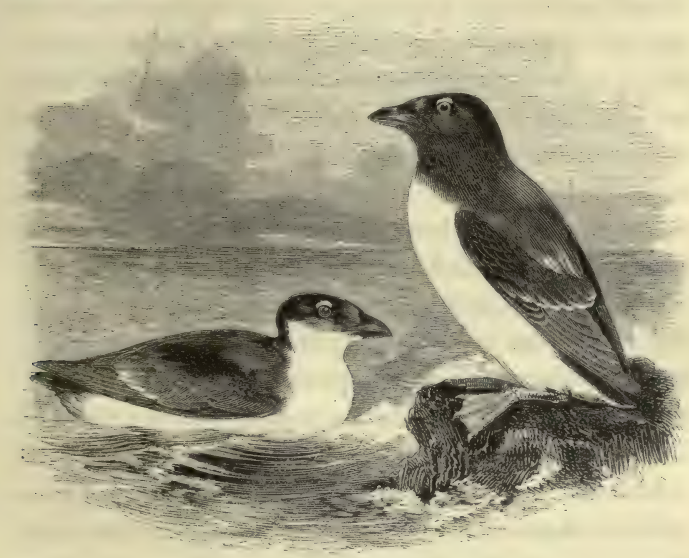
The Black Guillemot, a well-known species, is smaller in size than the Common Guillemot, and more confined to the northern parts of the British Islands; but like the other species of this genus, it is an open sea bird, frequenting the rocks only for a limited period, during the season of incubation, and is seldom or ever found inland. It is local, remaining all the year in such situations as suit its habits. I have seen this bird at the end of summer in Christchurch Bay, on the Hampshire coast; it is also occasionally procured on the coasts of Dorsetshire, Devonshire, and Cornwall. Pennant mentions that in his time it was known to breed at several places on the coast of Wales. Mr. W. Thompson includes it, at this time, among the resident species of Ireland. Mr. J. Macgillivray says it is found on all the rocky coasts of the islands of the Outer Hebrides, but nowhere numerous; and Montagu mentions that Mr. Henry Boys saw both old and young in the month of August at Fowlesheugh, near Stonehaven. On the coasts of Durham and Northumberland Mr. Selby considers it a rare bird, but it breeds upon the Isle of May, at the mouth of the Frith of Forth, and was seen by some of the natural history party in Sutherlandshire about the caves of the mouth of the Durness Frith. Professor Macgillivray says "the Black Guillemot sits lightly on the water, paddles about in a very lively manner, dives with rapidity, opening its wings a little, like the other species, and moves under water with great speed."

Mr. Salmon, in his notes on eggs and birds found in Orkney in 1831, says, this species, which is there called the Tyste, differs from the Common Guillemot, in not resorting to the same spots for the purpose of incubation; and its principal place of breeding is upon a small holm, lying to the eastward of Papa Westra, where it is very numerous, and would scarcely move off the rocks when approached. In every instance two eggs were invariably found together, and they were deposited upon the bare ground. The egg is white, slightly tinged with green, blotched, spotted, and speckled, with ash-grey, reddish-brown, and very dark brown; the length two inches three lines, by one inch and a half in breadth. The first covering of the young bird is a greyish-black down, through which its first feathers make their way, and these are mottled black and white. The old birds, as well as the young, have a considerable portion of white in their plumage during winter, and in high northern latitudes still more white than with us. The summer-plumage is black, and in reference to the time of its assumption in Zetland, Dr. Fleming says that their summer appearance was completed by the end of March, but that they began to assume the black by the end of February. Mr. Dunn, from observation in Shetland, adds, "that the young of this species never leave the nest until perfectly fledged, and able to provide for themselves; as soon as this takes place the attendance and care of the parents cease; they do not even continue in the company of their young, which associate together for some time afterwards. Their food is small fish and crustacea."

This species is found on the coasts of Scandinavia, the Faroe Islands, and Iceland; it has also been found as far north as Nova Zembla, Spitzbergen, and Greenland, and has been called the Greenland Dove. It was found by our Arctic voyagers in most of the high northern latitudes visited by them, and is well known in North America.

In summer the beak is black; inside of the mouth reddish-orange; the irides brown; the whole of the plumage black, except the patch on the wing, which is white; legs vermilion red; whole length of the bird fourteen inches; of the wing from the wrist six inches and a half.

NATATORES. *ALCADÆ.*



THE LITTLE AUK,

OR COMMON ROTCHE.

Mergulus melanoleucos.

Alca alle,	*Little Auk,*	PENN. Brit. Zool. vol. ii. p. 158.
" "	" "	MONTAGU, Ornith. Dict.
" "	" "	BEWICK, Brit. Birds, vol. ii. p. 185.
Mergulus melanoleucos,	*Common Rotch,*	FLEM. Brit. An. p. 135.
" "	" "	SELBY, Brit. Ornith. vol ii. p. 430.
" "	" "	JENYNS, Brit. Vert. p. 259.
" "	*Little Auk,*	GOULD, Birds of Europe, pt. iv.
Uria alle,	*Guillemot nain,*	TEMM. Man. d'Ornith. vol. ii. p. 928.

MERGULUS. *Generic Characters.*—Bill shorter than the head, thick, broader than high at the base; culmen arched; upper mandible indistinctly grooved; under one with the symphisis very short and oblique; tips of both mandibles notched. Commissure arched. Nostrils lateral, round, situated at the base of the bill, and partly covered with small feathers. Legs abdominal, short; feet of three toes, all directed forwards, and united by a membrane. Wings and tail short.

The Little Auk, or Common Rotche, as it is also called, though in its habits very similar to the Guillemots and the true Auks, is only a winter visiter to the British Islands, and is more frequently met with among those of Orkney and Shetland than farther south. Somewhat intermediate in its characters between the Guillemots and the Auks, with the last of which it was long associated in ornithological works, it has been considered worthy of generic distinction, and separated accordingly.

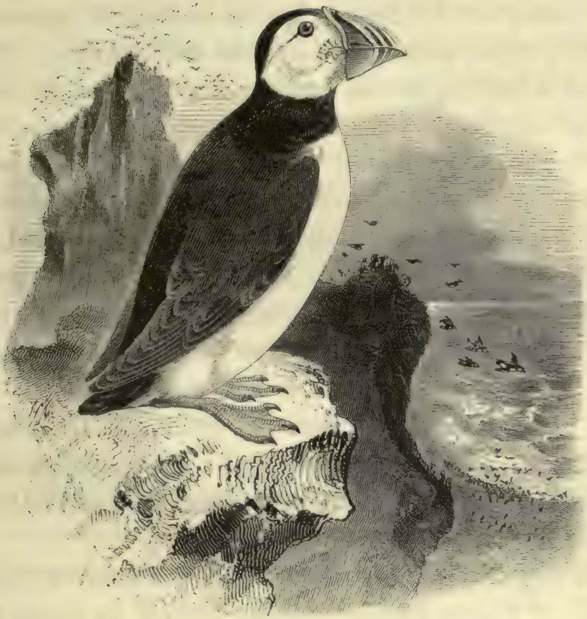
Truly oceanic in its habits, and unless forced by necessity, rarely seen on land except in the breeding-season, this species seldom makes its appearance on our coasts, but with, or soon after, the stormy weather which usually follows each autumnal equinox, when they are forced by violent and long continuing winds to leave the rougher sea and take shelter in land-locked bays, where they are easily shot; or, are not unfrequently driven while on wing over the land itself, far from their natural marine haunts, to situations where they are generally found either exhausted or dead.

A remarkable instance of this sort occurred in the month of October, 1841. Dr. Edward Clarke, of Hartlepool, sent me word that after a violent storm of wind from N.N.E. which lasted several days, his attention was directed by pilots and fishermen on the look out to various flocks of small black and white birds, then close in shore. There were several hundreds of them, which were unknown to these seafaring men, but which proved to be the Little Auk. Many were obtained, five or six being killed at each shot, the birds were so numerous. The same thing happened at the same time at Redcar, on the Yorkshire coast, but after two or three days, the wind abating, they were seen no more. About the same time I heard from various friends of other examples being taken in many different counties. In Lincolnshire, Norfolk, Suffolk, Essex, Kent, and Sussex. On the other side of the channel, on the coasts of Holland and France, the Little Auk is taken in severe winters. During the early part of November, 1841, a few of these birds were sent for sale to the London markets. Some were taken at unusual distances inland. Mr. Thrale, a collector in Hertfordshire, sent me notice of one, now in his possession, that was obtained on the mill-head at Wheathamstead. Another was picked up alive between Baldock and Royston, and is now preserved in the Museum at Saffron Walden. I heard of others taken near Birmingham. Mr. Strickland recorded nine taken in Worcestershire; three in Shropshire; some at Bristol, and other parts near the Severn. The Little Auk is, however, a rare bird in the counties of Devon and Cornwall. Mr. W. Thompson has noticed its occurrence in Ireland at Wexford, and at Kerry; at the latter it is suspected that it may breed in the same locality as Brunnich's Guillemot. It has been shot in winter in Cumberland.

North of Shetland it is found in different parts of Scandinavia. It breeds on the most northern of the Faroe Islands; and Mr. Proctor tells me that it breeds also at Iceland; he found the eggs laid under stones on Grimsey island. Some writers say this little bird lays but one egg; others say two; they are very rarely to be seen in collections; the length is one inch seven lines, the breadth one inch one line, and the colour a uniform pale blue, not unlike in colour the eggs of our Common Starling.

The Little Auk goes as far north as Nova Zembla, Spitzbergen, and Greenland. Sir Edward Parry, while accompanied by Captain James C. Ross, obtained one specimen as far north as latitude 81°, with the Common Guillemot that has already been referred to, and these were the only two species of birds seen in that high latitude, and their only food there was small thin-skinned crustacea. The Little Auk was, however, found in great quantities by our Arctic voyagers in some situations. In his Memoir on the Birds of Greenland, published soon after one of the Voyages of Discovery, Colonel Sabine observes: "This species was abundant in Baffin's Bay, and Davis' Straits; and in latitude 76° was so numerous in the channels of water separating fields of ice, that many hundreds were killed daily, and the ship's company supplied with them. The whole of the birds in the breeding-season, the sexes being alike, had the under part of the neck an uniform sooty black, terminating abruptly, and in an even line against the white of the belly; the young birds, which we saw in all stages from the egg, as soon as they were feathered, were marked exactly as the mature birds; but in the third week in September, when we were on our passage down the American coast, every specimen, whether old or young, was observed to be in change; and in the course of a few days the entire feathers of the throat and cheeks, and of the under part of the neck, had become white."

In the adult bird the beak is black; the irides hazel, with a small white spot over the eye; the head, hind neck, back, wings, and tail black, but the ends of the secondaries and the sides of the tertials are margined with white; the colour of the chin, throat, and neck in front, depend on the season, being black in summer and white in winter, but mottled with black and white in spring and autumn; under surface of the body white; legs and toes yellowish-brown, the membranes between the toes darker brown. Whole length of the bird about eight inches and a half; of the wing from the wrist four inches and a half. M. Temminck says the young birds of the year may be distinguished by having their cheeks shaded with grey.



THE PUFFIN,

SEA PARROT, AND COULTERNEB.

Fratercula arctica.

Alca	*arctica,*	*The Puffin,*	Penn. Brit. Zool. vol. ii. p. 152.
,,	,,	,, ,,	Montagu, Ornith. Dict.
,,	,,	,, ,,	Bewick, Brit. Birds, vol. ii. p. 181.
Fratercula	,,	*Common Coulterneb,*	Flem. Brit. An. p. 130.
,,	,,	,, *Puffin,*	Selby, Brit. Ornith. vol. ii. p. 439.
,,	,,	*The* ,,	Jenyns, Brit. Vert. p. 260.
Mormon	*fratercula,*	,, ,,	Gould, Birds of Europe, pt. ii.
,,	,,	*Macareau moine,*	Temm. Man. d'Ornith. vol. ii. p. 933.

Fratercula. *Generic Characters.*—Bill shorter than the head, higher than long, very much compressed, both mandibles arched, transversely grooved, notched towards the point; the culmen as high as the top of the head, and with a cutting edge. Nostrils lateral, marginal, linear, naked, almost entirely closed by a naked membrane. Legs short, abdominal; feet with three toes only, all in front, united by membranes; claws curved. Wings and tail short.

This singular looking bird, whose aspect is rendered so peculiar by the form and colours of its bill, is only a summer visiter to the British Islands, making its appearance early in April, and departing by the end of August. High rocks or cliffs on the sea coast, or the short turf frequently to be found on the table land above, are the places selected by Puffins for the great object of their visit, the reproduction of their species, and various localities about which they assemble in vast numbers may be enumerated. In Ireland, Mr. W. Thompson says, the Puffin is a regular summer visitant, having breeding-haunts around the coast. This bird visits the Isle of Man; the coast of Anglesey; the Scilly Islands, where it is more common than in Cornwall; the high cliffs of the Isle of Wight, between the needle rocks and Freshwater gate; the Yorkshire coast; the Fern Islands; Puffin island in the Frith of Forth, and others of the numerous Scottish islands.

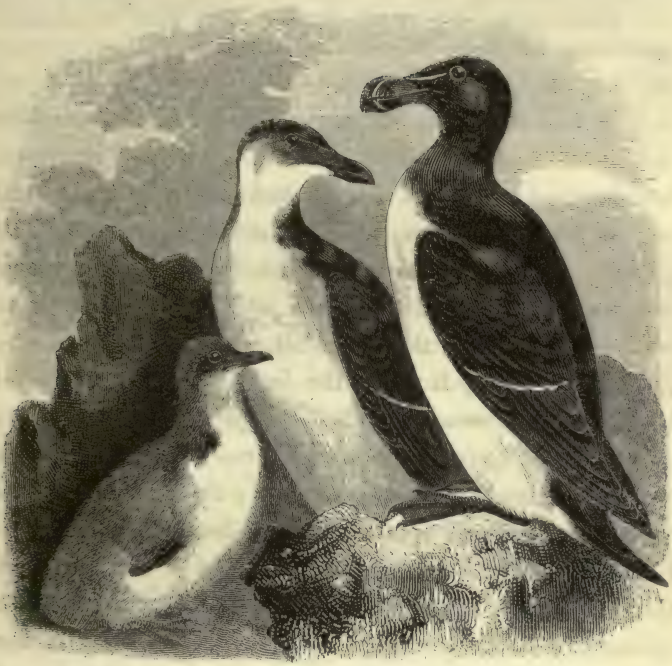
In reference to the Scilly Islands, Frederick Holme, Esq., of Corpus Christi College, Oxford, to whom I am indebted for many interesting notices on our British Birds, sent me the following. The Scilly Isles were held in the 14th century, under the king as Earl of Cornwall, by Ranulph de Blancminster for an annual payment of six shillings and eight pence, or three hundred Puffins at Michaelmas.

Early in May these birds deposit their single large egg, sometimes in crevices and fissures on the perpendicular surface of the cliffs, at the depth of three or four feet from the front. Rabbit warrens are not unfrequent on our coast, and where this happens the Puffins often contend with the rabbits for the possession of some of the burrows. Many Puffins, Mr. Selby observes, "resort to the Fern Islands, selecting such as are covered with a stratum of vegetable mould; and here they dig their own burrows, from there not being any rabbits to dispossess upon the particular islets they frequent. They commence this operation about the first week in May, and the hole is generally excavated to the depth of three feet, often in a curving direction, and occasionally with two entrances. When engaged in digging, which is principally performed by the males, they are sometimes so intent upon their work as to admit of being taken by the hand, and the same may also be done during incubation. At this period I have frequently obtained specimens, by thrusting my arm into the burrow, though at the risk of receiving a severe bite from the powerful and sharp-edged bill of the old bird. At the farther end of this hole the single egg is deposited, which in size nearly equals that of a Pullet. The length two inches three lines, by one inch and seven lines in breadth. Its colour when first laid is white, sometimes spotted with pale cinereous, but it soon becomes soiled and dirty from its immediate contact with the earth, no materials being collected for a nest at the end of the burrow. The young are hatched after a month's incubation, and are then covered with a long blackish down above, which gradually gives place to the feathered plumage, so that, at the end of a month or five weeks, they are able to quit the burrow, and follow their parents to the open sea. Soon after this time, or about the second week in August, the whole leave our coasts." Pennant mentions that when the time for migration arrives, such young birds as cannot then fly are deserted. Puffins when on land rest on the whole length of the foot and heel, as represented in the illustration, and walk in consequence with a waddling gait, but they fly rapidly for a moderate distance, and can swim and dive well. They feed on marine insects, small crustacea, and young fish. I have seen old birds when they had a young one to feed, returning to the rocks with several small fish hanging by the head from the angle of the gape of the mouth. Mr. John Macgillivray says that at St. Kilda many Puffins are taken when sitting on the rocks, by means of a noose of horse-hair attached to a slender rod of bamboo-cane. This mode is most successful in wet weather, as the Puffins then sit best upon the rocks, allowing a person to approach within a few yards, and as many as three hundred may be taken in the course of one day by an expert bird-catcher. They are caught for their feathers.

The Puffin visits various parts of Scandinavia, the Faroe Islands, and Iceland; it has been found as far as Nova Zembla, and other high northern latitudes. East of this country it is taken on the coasts of Holland and France. A single specimen is recorded to have been taken at Genoa in the winter of 1823, and M. Savi includes it in his history of the Birds of Italy. An example of this species wanders occasionally, as if by accident, to Sicily and Malta.

The beak has the basal ridge yellow, the space in advance of the base bluish-grey, with three grooves and four ridges of orange; the naked skin at the gape is yellow; the irides grey, eyelids orange; lore, chin, cheeks, and ear-coverts white; forehead, crown, occiput, a collar round the neck, all the back, wings, and tail black, the wing-primaries rather the lightest in colour; all the under surface of the body white; legs, toes, and their membranes orange; the whole length twelve inches, of the wing six inches. Both sexes alike in plumage. Varieties in colour have been known to occur.

NATATORES. *ALCADÆ.*



THE RAZOR-BILL.

Alca torda.

Alca torda,	*The Razor-bill Auk,*	Penn. Brit. Zool. vol. ii. p. 148.
„ „	„ *Black-billed* „	„ „ „ „ 150.
„ „	„ *Razor-bill*	Montagu. Ornith. Dict.
„ *pica,*	„ *Black-billed* „	„ „ „
„ *torda,*	„ *Razor-bill*	Bewick, Brit. Birds, vol. ii. p. 176.
„ *pica,*	„ *Black-billed* „	„ „ „ „ 179.
„ *torda,*	„ *Razor-bill,*	Flem. Brit. An. p. 130.
„ „	„ „ „ *Auk,*	Selby, Brit. Ornith. vol. ii. p. 435.
„ „	„ „ „	Jenyns, Brit. Vert. p. 260.
„ „	„ „ *billed Auk,*	Gould, Birds of Europe, pt. xii.
„ „	*Pingouin macroptere,*	Temm. Man. d'Ornith. vol ii. p. 936.

Alca. *Generic Characters.*—Bill straight, large, compressed, very much curved towards the point, basal half of both mandibles covered with feathers, grooved towards the point, the superior mandible hooked, the under one forming with it a salient angle. Nostrils lateral, marginal, linear, near the middle of the beak, the aperture almost entirely closed by a membrane covered with feathers. Legs short, abdominal ; only three toes, all in front, entirely united by membrane ; claws but slightly curved. Wings short, tail pointed.

The Razor-bill so closely resembles the Common Guillemot in the localities it frequents ; in the time of its movements ; in its manners, habits, and food ; in its general colours and appearance, and the seasonal changes of its plumage ; that the history of the one species, given at page 450, is the history of the other, and repetition would be useless. The egg of the Razor-bill, however, differs in size, form, and colour ; it wants the lengthened pear shape of that of the Guillemot, as well as its agreeable green colour; it measures only two inches and three-quarters in length, by one inch and ten lines in breadth ; the ground colour is white, blotched and spotted with red-brown, and blackish-brown. The bird is abundant on most of the islands of the Arctic Seas, and the Zoological Society have received a young bird in its first winter-dress from Tangiers ; it also appears occasionally in winter on the shores of Italy and Sicily, but this is the farthest southern range I am able to quote for it.

Both sexes are alike in plumage, and in summer the beak is black, with three transverse grooves, and one white line on the upper mandible, two transverse grooves and a white line on the lower mandible ; from the top of the beak to each eye there is a well-defined streak of pure white ; irides dark brown ; the whole of the head, chin, throat, hind neck, back, wings, and tail black ; the tips of the secondary quill-feathers, the breast, and all the under surface of the body pure white ; legs, toes, and their membranes brownish-black ; whole length about seventeen inches ; wing, from the wrist seven inches and a half.

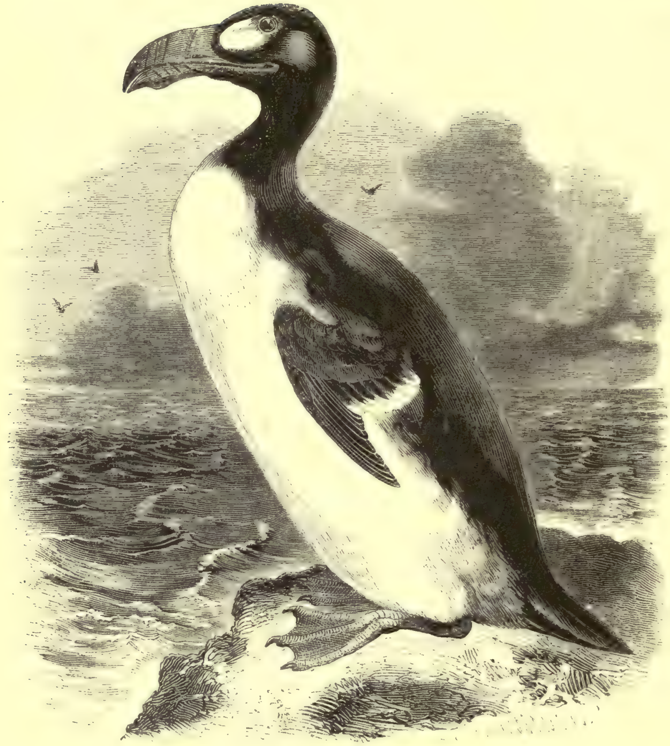
A young bird of the year killed in December, represented by the central figure in the illustration, has the beak smooth and black, as yet without ridge, groove, or white line on either mandible ; the white line from the top of the beak to the eye very observable, but not very pure in colour, being mixed with a little black ; chin, throat, neck in front, and on the side at the upper part, cheeks, and ear-coverts, white ; in other respects like the old bird in summer.

A young bird about a week old, obtained from the rocks at the Isle of Wight, has the beak smooth and black, no white line to the eye, but the chin and throat are white, with a few greyish-black hairs about the middle of the neck in front ; the head and hind neck black, with a few white hairs ; body above and the wings dull sooty-black.

The young bird of the year at Christmas only differs from the adult bird in winter in the character of the beak, which is smaller and has not then acquired the grooves or lines so conspicuous in the old bird. The young bird retains its white throat till the spring moult, when it assumes the black throat peculiar to the breeding-season.

It is matter of surprise that Colonel Montagu, who was so good an observer, should have remained mistaken on the subject of his Lesser Guillemot and Black-billed Auk. Had he obtained a young bird of the Common Guillemot, or the Razor-bill from the rocks on our coast, in June, and kept it alive in his garden till Christmas, the riddle would have been solved for him.

NATATORES. *ALCADÆ.*



THE GREAT AUK.

Alca impennis.

Alca impennis,	*The Great Auk,*	Penn. Brit. Zool. vol. ii. p. 146.
,, ,,	,, ,, ,,	Montagu, Ornith. Dict.
,, ,,	,, ,, ,,	Bewick, Brit. Birds, vol. ii. p. 174.
,, ,,	,, ,, ,,	Flem. Brit. An. p. 129.
,, ,,	,, ,, ,,	Selby, Brit. Ornith. vol. ii. p. 433.
,, ,,	,, ,, ,,	Jenyns, Brit. Vert. p. 261.
,, ,,	,, ,, ,,	Gould, Birds of Europe, pt. xiii.
,, ,,	*Pingouin trachiptère,*	Temm. Man. d'Ornith. vol. ii. p. 939.

The Great Auk is a very rare British Bird, and but few instances are recorded of its capture. "The natives in the Orkneys informed Mr. Bullock on his tour through these islands several years ago, that only one male had made its appearance for a long time, which had regularly visited Papa Westra for several seasons. The female, which the natives call the Queen of the Auks, was killed just before Mr. Bullock's arrival. The King, or male, Mr. Bullock had the pleasure of chasing for several hours in a six-oared boat, but without being able to kill him, for though he frequently got near him, so expert was the bird in its natural element that it appeared impossible to shoot him. The rapidity with which he pursued his course under water was almost incredible." About a fortnight after Mr. Bullock had left Papa Westra, this male bird was obtained and sent to him, and at the sale of his collection, was purchased for the British Museum, where it is still carefully preserved.

Dr. Fleming has noticed one taken at St. Kilda, an island of the Outer Hebrides, in the winter of 1822. Another was taken there in 1829, but afterwards escaped from confinement. Mr. John Macgillivray, who visited the islands of the Outer Hebrides in July, 1840, says, "The Great Auk was declared by several of the inhabitants to be of not unfrequent occurrence about St. Kilda, where, however, it has not been known to breed for many years back. Three or four specimens only have been ever procured during the memory of the oldest inhabitant."

The authors of the catalogue of Norfolk and Suffolk Birds include a notice of one specimen killed near Southwold, on the authority of Sir William Jackson Hooker. Mr. Bullock told Dr. Fleming some years ago that a specimen was taken in a pond of fresh water, two miles from the Thames, on the estate of Sir William Clayton, near Marlow, in Buckinghamshire. Dr. Edward Moore, in his catalogue of the web-footed birds of Devonshire, refers to a specimen of this bird which was picked up dead near Lundy Island in the year 1829, which Professor Jameson suggested might have been the one which had been obtained by Mr. Stevenson in St. Kilda, and which had escaped from the Light-house keeper of Pladda. Lastly, Mr. W. Thompson states that one of these birds taken in 1834, off the coast of the county of Waterford, has been presented by Dr. Robert Burkitt to the collection in Trinity College, Dublin.

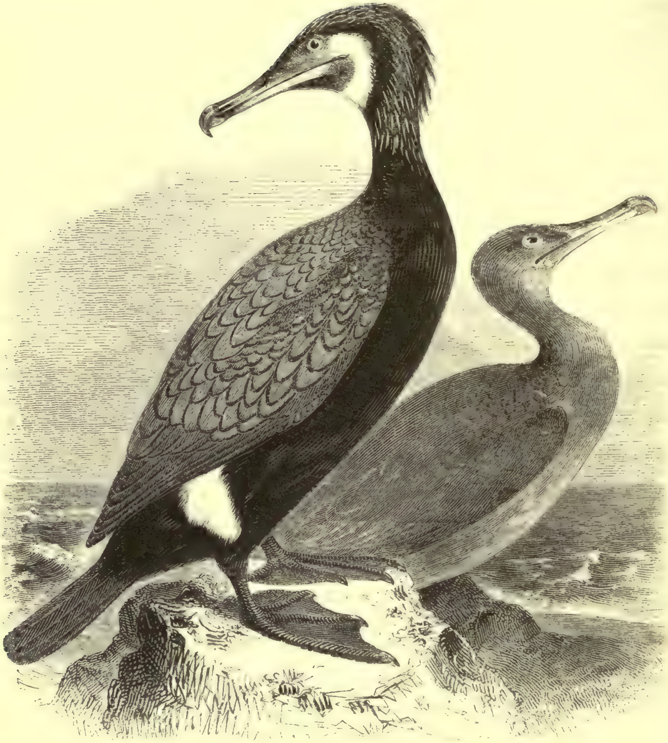
These are the notices I am acquainted with in reference to the appearance of the Great Auk near the British Islands. It is said to be very rarely seen out of the water, and the female lays her single large egg close above the sea-tide mark. The egg measures four inches ten lines in length, by two inches and nine lines in breadth; of a soiled white colour, tinged with yellow, blotched and streaked, principally over the larger end, with black.

M. Nilsson says this species is very rare in Sweden and Norway. In a volume of the Edinburgh Cabinet Library, containing a historical and descriptive account of Iceland, Greenland, and the Faroe islands, it is said, page 405, "The Great Auk, which is the size of a Goose, used formerly to be found in these countries. In Landt's time it had, however, become scarce, and at present is almost unknown even by name. According to Graba none have been seen in Greenland, Iceland, or Faroe of late years, so that the race may now be regarded as extinct." No specimen was obtained by our Arctic voyagers upon either of the Northern expeditions. The specimen represented by Edwards, plate 147, was obtained at sea, over a fishing bank, about one hundred leagues from Newfoundland. Mr. Audubon says "Mr. Henry Havell, brother of my engraver, when on his passage from New York to England, hooked a Great Auk on the banks of Newfoundland, in extremely boisterous weather. On being hauled on board it was left at liberty on the deck. It walked very awkwardly, often tumbling over; bit every one within reach of its powerful bill, and refused food of all kinds. After continuing several days on board it was restored to its proper element. When I was at Labrador, many of the fishermen assured me that the Penguin, as they name this bird, breeds on a low rocky island to the south east of Newfoundland, where they destroy great numbers of the young for bait; but as this intelligence came to me when the season was too far advanced, I had no opportunity of ascertaining its accuracy. In Newfoundland, however, I received similar information from several individuals. An old gunner residing on Chelsea Beach, near Boston, told me that he well remembered the time when the Penguins were plentiful about Nahant, and some other islands in the bay."

In summer-plumage the bill is black, very strong, compressed, and marked with several lateral furrows; the irides reddish brown; between the beak and the eye an oval patch of white; head, chin, and throat, hind neck, back, wings, and tail black; the ends of the secondary wing-feathers white; breast, and all the under surface of the body white; legs, toes, and their membranes black. The whole length of the bird thirty-two inches; the wing from the wrist to the end of the longest quill-feather seven inches; of the longest feather alone but four inches and one quarter.

Dr. Fleming's specimen obtained in winter, had the chin, throat, and front of the neck white. Mr. Fox, in reference to the specimen in the Newcastle Museum, says, "Our bird is apparently a young one, the neck black, spotted, or mottled with white; upper mandible of the bill with one large sulcus at the base, none at the tip."

NATATORES. *PELECANIDÆ.*



THE COMMON CORMORANT.

Phalacrocorax carbo.

Pelecanus	*carbo,*	*The*	*Common*	*Corvorant,*	Penn. Brit. Zool. vol. ii. p. 281.
,,	*carbo,*		,,	,,	Montagu, Ornith. Dict.
,,	*carbo,*	,,		*Cormorant,*	Bewick, Brit. Birds, vol. ii p. 397.
		,,	*Crested*	,,	,, ,, ,, ,, 403.
Phalacrocorax	,,		*Common*	,,	Flem. Brit. An. p. 117.
,,	,,		,,	,,	Selby, Brit. Ornith. vol. ii. p. 446.
,,	,,		,,	,,	Jenyns, Brit. Vert. p. 262.
,,	,,		,,	,,	Gould, Birds of Europe, pt. ix.
Carbo cormoranus,			*Grand*	*Cormoran,*	Temm. Man. d'Ornith. vol. ii. p. 894.

PHALACROCORAX. *Generic Characters.*—Bill moderate, or long, straight, compressed, culmen rounded; upper mandible very much curved at the point, hooked; the base connected with a membrane which extends to the throat. Face and throat naked. Nostrils basal, linear, hid. Legs strong, short, abdominal; three toes in front, one behind, the hind toe articulated on the inner surface of the tarsus; all four toes united together by membranes; claw of the middle toe serrated on the inner edge. Wings of moderate length, the third quill-feather the longest. Tail feathers stiff and rigid.

THE GREAT CORMORANT, or Black Cormorant as it is sometimes called, to distinguish it from the green-coloured species next to be described, is found in considerable numbers on most of the rocky parts all round the coast. So common indeed is it as to make an enumeration of the localities it frequents unnecessary; yet the bird has given rise to some mistakes, and the new appearance assumed by the adult Cormorant when it has acquired in spring the crest and further change peculiar to the breeding-season, has induced some authors to consider that we had in this country, besides the green species already referred to, a second Cormorant.

Our illustration represents two birds killed at the Isle of Wight. The bird in front is in the plumage of the breeding-season; the other is a younger bird, not yet sufficiently matured to assume the breeding-dress. Some observations made upon living Cormorants in the Gardens of the Zoological Society will afford further explanation. Some white feathers on the side of the head and neck began to appear on an old bird on the 4th of January, 1832, and arrived at their greatest perfection by the 26th of February. They remained in this state till the 2nd of April, when they began gradually to disappear, and by the 12th of May were wholly lost, having been fifty-three days arriving at perfection; thirty-six days stationary, and forty days disappearing; making together a period of eighteen weeks three days. These white feathers are new ones, much longer than the black feathers of the same part, rounded in form, and in some degree resembling bristles. Some white feathers began to appear on the thighs of the same bird on the 25th of January, and the patch was completed in five weeks. These white feathers began to disappear about the 16th of June, and by the 20th of July were almost entirely gone. Both sexes assume summer plumage. The female has the longest crest, and is the brightest in colour, but is the smallest in size. A young Cormorant brought to the Garden in the autumn of 1830, did not go through any change during the summers of 1831 or 1832.

Cormorants, when at their breeding-stations, seem to prefer the higher parts of the rocks or cliffs,* and many birds congregate harmoniously together. They make a large nest, composed of sticks, with a mass of sea-weed and long coarse grass; they lay four, five, and sometimes six eggs, which are small compared to the size of the bird. The eggs are oblong, similar in shape at both ends, rough in texture externally, of a chalky white colour, varied with pale blue; the length two inches nine lines, by one inch and seven lines in breadth. Mr. Selby says, "The young when first excluded are blind, and covered with a bluish-black skin; in the course of a few days they acquire a thick covering of black down, and are sufficiently fledged to take to the water, though still unable to fly, in the space of three weeks or a month." The old birds fly well, generally low over the surface of the water; they swim rapidly, and dive in perfection; their food is fish, which they appear to catch with great ease and hold with certainty, by the sharp, hooked, horny point of the upper mandible; their dilatable throat enabling them to swallow a large prey. When fishing they are frequently observed to carry their heads under water, perhaps that vision may not be interfered with by the ripple on the surface. They are frequently seen sitting on posts, rails, or leafless trees by the water side, when, if a fish should move on the surface within their sight, it is pounced upon, and caught to a certainty. An eel is a favourite morsel with him, and a Cormorant has been seen to pick up an eel from the mud, return to the rail he was previously sitting upon, strike the eel three or four hard blows against the rail, toss it up into the air, and catching it by the head in its fall, swallow it in an instant. Cormorants on the wing frequently follow the course of a river many miles inland; sometimes, perhaps, mistaking stone buildings for rocks, as a few years ago a Cormorant was shot on King's College Chapel, in Cambridge.

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* The Rev. Richard Lubbock says that Cormorants have in some seasons nested in the trees around the decoy at Fritton in Norfolk; M. Malherbe states, also, that in Sicily the Cormorants make their nests on trees in the marshes.

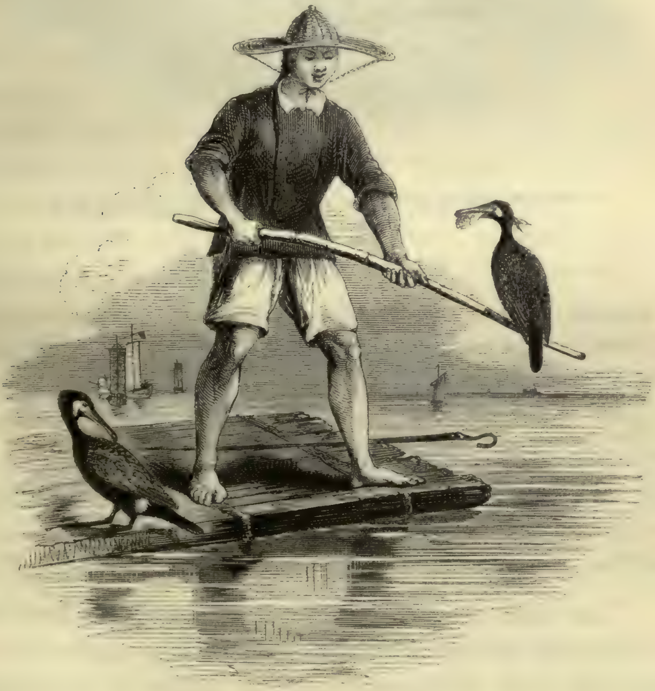
That Cormorants possess considerable intelligence is shown by several circumstances. They are easily reconciled to confinement; and Montagu, in his Supplement, relates an interesting account of one that very soon became so tame and attached, that it seemed to be never so happy as when permitted to remain by the side of its owner. They were formerly trained to catch and bring fish to their masters. Whitelock tells us, says Pennant, that he had a cast of them manned like hawks, and which would come to hand. He took much pleasure in them, and relates, that the best he had was one presented him by Mr. Wood, Master of the Cormorants to Charles I. The Chinese are said to use them at the present time; the bird is taken to the water side; a metal ring, or leather strap, by way of collar is put on his neck, and he is then set at liberty to catch a fish, which he brings to hand when called, a small cord being attached to him, while in training, to insure his return; having satisfied the wants of his master, the collar is taken off, and the bird is then allowed to fish for himself. On other occasions, when well trained, two birds are taken by the fishermen upon the water on a raft to fish, as shown in the representation used as a vignette at the end of this subject. The Cormorants appear to fish and rest by turns, and are assisted in gaining a footing upon the raft by the fisherman using a short pole.

Sir Robert Shafto Adair told me that a pair of Cormorants took to, fed, and brought up a nest of young Ravens, the natural parents of which had both been destroyed. The game-keeper was desired to watch the proceedings, and reported that the Cormorants brought a constant supply of fish. Cormorants are found at Corfu, Sicily, and Malta. Mr. Drummond observed that they were numerous on both lakes at Biserta, near Tunis; and Mr. Strickland says Cormorants abound in the harbour of Constantinople, and roost on the roofs of the houses.

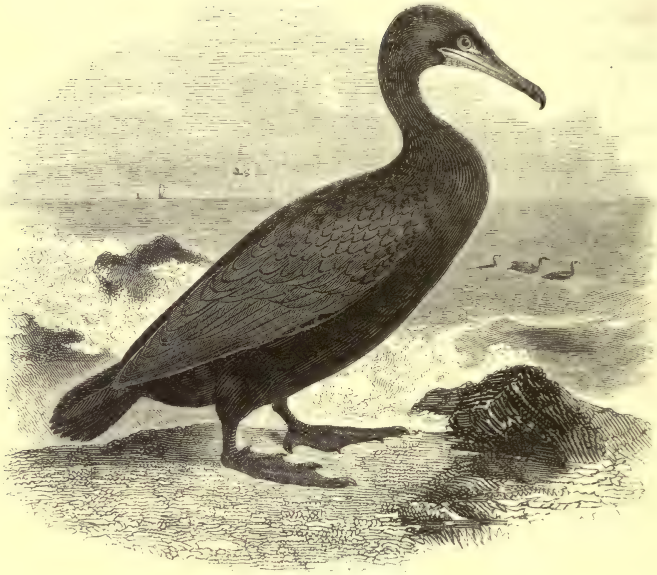
The Cormorant inhabits the North-western portions of India, Calcutta, and China.

The adult bird during spring, and the early part of summer, has the bill pale brown, the point horny, hooked, and sharp; irides green; forehead, crown, nape, and part of the neck black, mixed with many white hair-like feathers, the black feathers on the occiput elongated, forming a crest; base of the upper mandible, and the gular pouch yellow, the pouch margined with white; the back and wing-coverts dark brown, each feather margined with black; quill-feathers and tail black; lower part of the neck all round with the breast and all the under surface of the body a rich velvet-like bluish-black, except a patch on the thigh, which is white; the legs, toes, and their connecting membranes black; whole length of a male about three feet; of the wing fourteen inches and a half. Of the female the length is about thirty-three inches, the wing thirteen inches and a half.

A young bird has the upper mandible dark brown, the lower one pale brown; irides brown; forehead, hind neck, back, wings, and tail dark brown; chin, throat, and neck in front dull white, mixed with pale wood brown; lower part of neck in front darker brown, mottled with white; under surface of body dull white; varied with a little brown; sides and flanks dark brown; legs, toes, and membranes nearly black.



NATATORES. *PELECANIDÆ.*



THE SHAG, OR GREEN CORMORANT.

Phalacrocorax graculus.

Pelecanus	*cristatus,*	*Shag Cormorant,*	Penn. Brit. Zool. vol. ii. p. 285.
,,	,,	*Crested* ,,	,, ,, ,, ,, 284.
,,	*graculus,*	*The Shag* ,,	Montagu, Ornith. Dict.
,,	*cristatus,*	*Crested Shag,*	,, ,, ,,
,,	*graculus,*	*The* ,,	Bewick, Brit. Birds, vol. ii. p. 405.
Phalacrocorax	,,	*Common* ,,	Flem. Brit. An. p. 117.
,,	*cristatus,*	*Crested* ,,	,, ,, ,, 118.
,,	,,	,, ,,	Selby, Brit. Ornith. vol. ii. p. 450.
,,	,,	,, ,,	Jenyns, Brit. Vert. p. 262.
,,	,,	,, ,,	Gould, Birds of Europe, pt. x.
Carbo	,,	*Cormoran largup,*	Temm. Man. d'Ornith. vol. ii. p. 900.

The adult Shag is immediately distinguished from the Cormorant at any season by its prevailing green colour, as well as its smaller size, and this difference in size is a sufficient distinction between them, when as young birds they are more alike in colour. The matured Cormorant and the Shag both bear crests in spring, and the early part of summer, but neither of them have a crest in winter, while the young and immature birds of both these species have no crest either in winter or summer. It is also common to find the crested mature birds associating and breeding in one locality, and the non-crested immature birds congregating, but not breeding, in another.

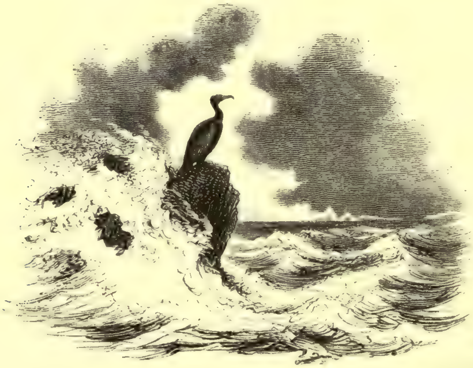
In the localities visited, or in the habits of the Small, or Green Cormorant, as compared with those of the larger and darker-coloured bird, there are but few points of difference. The Shag, it is said, never quits the salt water to follow the course of a river, nor does it settle on trees like the Cormorant. They generally build lower down on the rocks, nearer the water, than the Cormorants, but in companies like them; and Montagu says he has seen thirty nests close together on a small rock. The nest is formed of sea-weed, the eggs, three or four in number, in shape and colour like those of its generic companion, but they measure only two inches five lines in length, by one inch and five lines in breadth. These birds live on fish, in pursuit of which they exhibit all the skill of the Cormorant, and have a similarly serrated claw, but as neither of them are observed to attempt to catch, or to hold fish with their feet, it would seem that their serrated claw is not used to enable them to retain a slippery prey; while from some remains of down and feather found adhering to the serrations in one of the Bitterns, it would rather appear that the pectinated claw was used to dress and arrange the plumage.

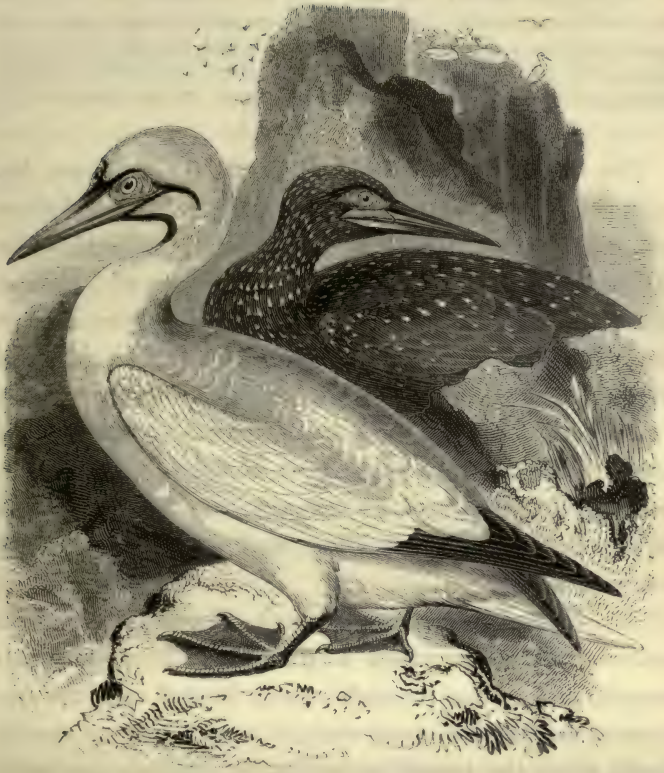
The depth of water to which marine diving-birds will go in pursuit of prey, is greater perhaps than is generally supposed. The Shag has been caught in a crab-pot fixed at twenty fathoms (one hundred and twenty feet) below the surface.

The geographical range of this bird in the north is very similar to that of the Cormorant, but the Cormorant goes to the eastward, and is found at the Caspian Sea and in India, where the Green species is not seen, but has been brought from South Africa by Dr. Andrew Smith.

In the adult bird the bill is dusky black, the base of the under mandible and the naked skin about the gape yellowish green; the irides green; the head crested in the spring; the crown, neck, breast, and all the under surface of the body a uniform rich dark green; back, and wing-coverts dark green, each feather with a narrow, but darker margin; wing and tail-feathers black; legs, toes, and their membranes black. The whole length of the male twenty-seven inches; of the wing from the wrist ten inches and three-quarters.

Young birds have the upper plumage brown, tinted with green; the under surface brownish-ash, mingled with white.





THE GANNET,

OR SOLAND* GOOSE.

Sula alba.

Pelecanus	*bassanus,*	*The Gannet,*	**Penn.** Brit. Zool. vol. ii. p. 286.
,,	,,	,,	**Montagu**, Ornith. Dict.
,,	,,	,,	**Bewick**, Brit. Birds, vol. ii. p. 408.
Sula	*alba*	*Common* ,,	**Flem.** Brit. An. p. 118.
,,	*basan,*	*Solan* ,,	**Selby**, Brit. Ornith. vol. ii. p. 455.
,,	,,	*Common* ,,	**Jenyns**, Brit. Vert. p. 263.
,,	,,	*Solan* ,,	**Gould**, Birds of Europe, pt. xvii.
,,	*alba,*	*Fou de bassan,*	**Temm.** Man. d'Ornith. vol. ii. p. 905.

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* Solent or Channel Goose.

SULA. *Generic Characters.*—Bill strong, long, forming an elongated cone very large at its base, compressed towards the point, which is slightly curved ; edges of the mandibles serrated ; the angle of the gape behind the line of the eyes. Face and throat naked. Nostrils basal, linear, hidden. Legs short, strong, placed rather backward ; three toes in front, one behind, articulated to the inner surface of the tarsus, all four toes united by membrane ; claw of the middle toe pectinated. Wings long, first quill-feather the longest. Tail cuneiform.

THE GANNET is a constant resident on our coast, but with considerable change of locality depending on the season of the year. The breeding stations at which the largest quantities congregate during spring and autumn are, Lundy Island, off the coast of Devon, where one spot is called Gannet Cove, from the numbers which resort there ; the Skelig Isles, off the county of Kerry, west of Ireland , the Isle of Ailsa, at the mouth of the Frith of Clyde ; St. Kilda in the Outer Hebrides ; Souliskerry near the Orkneys ; and, on the east coast, the Bass Rock in the Frith of Forth. These stations are inhabited by many thousands.

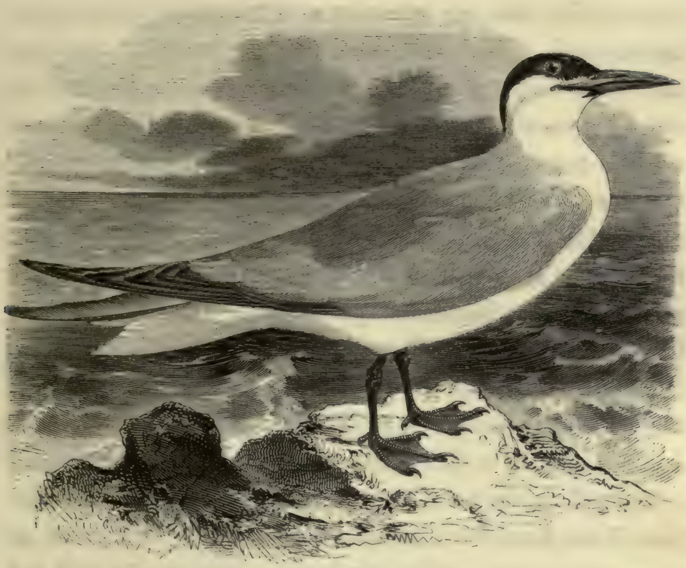
This last-named precipitous rock, Mr. Selby says, " is rented from the proprietor at sixty or seventy pounds per annum, and as the proceeds chiefly depend upon the produce of the Gannets, great care is taken to protect the old birds, which the tenant is enabled to do from the privilege possessed by the proprietor, of preventing any person from shooting, or otherwise destroying them within a certain limited distance of the island. From the accounts I have received from the resident there, it appears that the Gannet is a very long-lived bird, as he has recognised, from particular and well-known marks, certain individuals for upwards of forty years, that invariably returned to the same spot to breed. He also confirmed to me the time required for this bird to attain maturity, namely, four years ; and pointed out several in the different garbs they assume during that period, stating also, that until fully matured, they have never been known to breed. During incubation, in consequence of being unmolested, they become very tame; and, where the nests are easily accessible upon the flat surface of the rock on the south-west side of the island, will allow themselves to be stroked by the hand without resistance, or any show even of impatience, except a low guttural note."

The birds form their nests of a mass of weeds and grass, upon which they deposit a single egg, which, when first laid, is of a chalky white, tinged with pale blue, but soon becomes soiled; the length is three inches three lines, by one inch and ten lines in breadth. The changes between black and white these birds undergo are very curious. From the white egg the young one is excluded with a smooth and naked bluish-black skin, which soon becomes covered with a white down; this growing rapidly is soon very thick, giving them the appearance of large powder puffs, or masses of cotton. Through this white down their first true feathers issue, and these are black, to be followed by the adult plumage which is again white. Gannets feed exclusively upon fish, and being birds of great powers of flight, they take a very wide range over the sea in search of food. Shoals of herrings, pilchards or sprats, appear to have the greatest attraction for them, and all the species of the genus Clupea, it will be recollected, swim near the surface. On quitting their northern breeding-stations in autumn, many of these birds take a southern direction. Off the Cornish coast, Mr. Couch says in his Fauna, " Adult birds are most abundant in autumn, and winter, fishermen learning by the actions of these birds when shoals of pilchards are present, and the direction they are pursuing. The Gannet takes its prey in a different manner from any other of our aquatic birds; for traversing the air in all directions, as soon as it discovers the fish it rises to such a height as experience shows best calculated to carry it by a downward motion to the required depth; and then partially closing its wings, it falls perpendicularly on the prey, and rarely without success, the time between the plunge and emersion being about fifteen seconds." Gannets attracted to the same shoal, and fishing in company, are frequently caught in considerable numbers by becoming entangled in the meshes of the fishermen's long sea nets.

North of the British Islands, the Gannet is found in the Baltic, as high as the Gulf of Bothnia; on the west coast of Norway; at the Faroe Islands and Iceland; while from the coast of Labrador they are said to go as far south as Carolina. Southward from England the Gannet is included among the birds of Madeira and South Africa.

In the adult bird the bill is of a horny greyish-white; the edges serrated; the naked skin of the face blue; irides pale straw yellow; the head and neck buff colour; all the rest of the plumage white, except the wing primaries, which are black; the line of the bones of the legs and toes in front green, the other portions of the bones and the connecting membranes almost black. The whole length of the bird about thirty-four inches; from the wrist to the end of the first quill-feather, which is the longest, nineteen inches.

In the immature bird the beak is almost black; the naked skin of the face bluish-black; the general plumage black, varied with lines and triangular spots of dull white, giving the bird very much the appearance of the young of the Red-throated Diver, in one of its stages, but the structure of the foot will prevent them being mistaken for each other.



THE CASPIAN TERN.

Sterna caspia.

Sterna caspia, *Caspian Tern*, **Selby**, Brit. Ornith. vol. ii. p. 463.
" " " " **Jenyns**, Brit. Vert. p. 264.
" " " " **Eyton**, Rare Brit. Birds, p. 66.
" " " " **Gould**, Birds of Europe, pt. xviii.
" " *Hirondelle-de-mer Tschegrava*, **Temm.** Man. d'Ornith. vol. ii. p. 733.

Sterna. *Generic Character.*—Bill as long, or longer than the head; nearly straight, compressed, slender, tapering, with the edges sharp, and the end pointed; the mandibles of equal length, the upper one slightly curved towards the point. Nostrils near the middle of the beak, pierced longitudinally, pervious. Legs slender, naked for a short space above the tarsal joint; tarsi short; toes four, the three in front united by intervening membranes deeply concave in front, or semi-palmated; the hind toe free; claws small, curved. Wings long, pointed, the first quill-feather the longest. Tail forked in various degrees.

To this family, the *Laridæ*, the last among British Birds, belong about thirty-four species, of which the Terns and

Gulls are remarkable for the elegance of their forms; the great length of their wings; the small comparative size of their bodies, and the quantity of feathers with which they are covered. They are incessantly on the wing, yet sustain their flight with great apparent ease to themselves; swim buoyantly on the water, but never dive. Their food consists principally of fish, obtained alive from the surface, or animal matter left by the retiring tide, which is sought for by these birds at the water's edge. Besides the regular moult in autumn, a partial change in their plumage takes place in spring, soon after which they frequent rocks, sandy flats, or marshes, for the purpose of incubation. All the species belonging to the first genus, or the Terns, Sea-swallows, as they are frequently called, are summer visiters to this country, and the north of Europe.

Several specimens of this fine large Tern, called the Caspian Tern, have been killed within the few last years on our eastern coast, particularly in the counties of Suffolk and Norfolk. Two early examples are those mentioned by the Messrs. Paget, in their "Sketch of the Natural History of Yarmouth and its neighbourhood," one of which was killed in October, 1825; another was presented to the Norwich Museum, by the Rev. G. Steward of Caistor, near which place it was shot. Three or four were seen at Aldborough, in Suffolk, and one of them shot, which is now preserved in the Museum of the Philosophical Society of Cambridge, as mentioned by the Rev. L. Jenyns, in his Manual of British Vertebrata. Mr. Heysham sent me notice of a Caspian Tern, shot in Norfolk in 1839, and I have received other communications on this subject which might possibly refer to some of those instances already mentioned, but enough has been said to entitle this species to a place in our catalogues of British Birds.

The Caspian Tern is reported to breed annually at Sylt, an island of Denmark, on the west coast of Jutland. M. Nilsson says it visits also the mouth of the Baltic, and is seen in the vicinity of the Elbe. It is included by several naturalists in their birds of Germany. M. Temminck mentions that he has himself killed it, though rarely, on the coast of Holland, and it visits the coasts of France. M. Necker and Professor Schinz include this species among their birds of Switzerland; the former quoting four instances of its capture in the vicinity of Geneva; the latter calls it the King of the Sea-swallows, in reference to its very large size. M. Temminck says it has been met with and killed on the extensive rocks near Bonifacio, a sea-port of Corsica. M. Savi includes it in his work on the birds of Italy; it is rare in Corfu and Sicily: it inhabits the Grecian Archipelago; and the Russian naturalists who have lately visited the Caucasus found it in the vicinity of the Caspian Sea, where it was originally discovered, and from whence it received its first name from Pallas. The Caspian Tern has been found at Senegal, and at the Cape of Good Hope. Mr. Blyth has obtained examples in the vicinity of Calcutta.

M. Temminck tells us that the Caspian Tern feeds on fish, and lays its two or three eggs in a hole in the sand, or on the bare rocks near the edge of the sea. Eggs of this species, obtained from Hamburgh, in my own collection, are two inches six lines in length, by one inch and eight lines in breadth; of a yellowish stone colour, spotted with ash-grey, and dark red-brown.

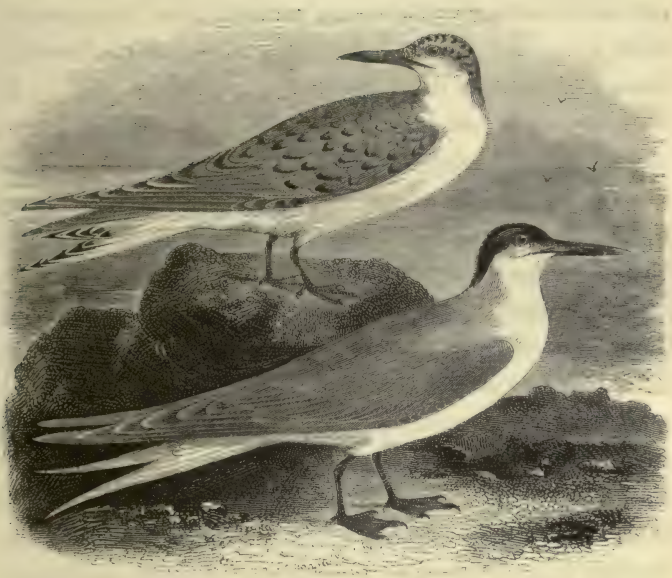
When in their summer-plumage the bill is vermilion-red, lightest in colour at the point; the irides reddish-brown; forehead, all the top of the head, and the nape of the neck rich black, the feathers of that colour on the occiput elongated; lower part of the neck all round white; the back, and all the upper surface of the body, the wings and tail-feathers ash-grey; the first six wing-primaries of a much darker grey, a slate-grey, with white shafts; the tail but slightly forked; the chin, throat, breast, and all the under surface of the body pure white; legs, toes, their membranes, and the claws black, the latter strong and curved.

The whole length of the specimen described, from the point of the beak to the end of the long feathers of the tail, nineteen inches; some specimens measure twenty to twenty-one inches. Among the Terns the males are rather larger than the females. From the carpal joint of the wing to the end of the first, which is the longest, quill-feather, seventeen inches and a half, the ends of the wings extending considerably beyond the ends of the forked feathers forming the tail.

Young birds of the year, before their first autumn moult, have the beak of a dull red, with some black at the point; the forehead and top of the head white; the upper surface of the body varied with patches of ash-brown, and darker transverse bands; the feathers of the tail have dark ends; the primary quill-feathers are also dark; all the under surface of the body pure white.

Adult birds in winter have the head white, with a few dark feathers behind the ear-coverts, in all other respects adult birds in winter resemble adult birds in summer, the black head alone excepted.

NATATORES. *LARIDÆ.*



THE SANDWICH TERN.

Sterna Boysii.

Sterna	*Boysii,*	*Sandwich Tern,*	PENN. Brit. Zool. vol. ii. p. 200.
,,	*cantiaca,*	,, ,,	MONTAGU, Ornith. Dict.
,,	,,	,, ,,	BEWICK, Brit. Birds, vol. ii. p. 211.
,,	*Boysii,*	,, ,,	FLEM. Brit. An. p. 142.
,,	,,	,, ,,	SELBY, Brit. Ornith. vol. ii. p. 464.
,,	*cantiaca,*	,, ,,	JENYNS, Brit. Vert. p. 265.
,,	,,	,, ,,	GOULD, Birds of Europe, pt. vi.
,,	,,	*Hirondelle de mer Caugek,*	TEMM. Man. d'Ornith. vol. ii. p. 735.

THE SANDWICH TERN was first observed at Sandwich, in 1784, by Mr. Boys, who sent specimens to Dr. Latham, by whom the particulars were published in the sixth volume of his General Synopsis, page 356. Attention being thus drawn to this species, it has since been ascertained to be a regular summer visiter here, appearing in spring and departing in autumn, after having reared the yearly brood. Of this species in Ireland, Mr. Thompson remarks that it is annually shot upon the coast, and may perhaps have breeding-haunts in some of the islets that are rarely visited by the naturalist. It has been noticed in Cornwall and Devonshire. Mr. Plomley says it breeds on the shingle banks about Romney Marsh in Kent; and I have seen it on Sandwich Flats and at Ramsgate. Mr. Parsons has taken the eggs near some salterns at the mouth of Blackwater river in Essex. The birds are not uncommon on the coasts of Suffolk and Norfolk; I possess both old and young birds killed near Sunderland in the second week in August; and Mr. Selby has particularly noticed their annual visits to the Farn Islands, and to Coquet Island, a few miles to the southward. "Here a station is selected apart from other species, generally on a higher site, and the nests are so close to each other, as to render it difficult to cross the ground without breaking the eggs, or injuring the unfledged young. Upon this coast it is called, *par excellence*, 'the Tern,' all the other species passing under the general name of 'Sea Swallows.' Its habits strongly resemble those of its genus, and it subsists upon similar kinds of fish, the sand-launce and young gar-fish forming the principal supply. Its flight is strong and rapid, and, except when engaged in incubation, it is almost constantly on the wing, uttering at intervals a hoarse and grating cry, which can be heard at a very great distance, and gives notice of its approach long before it is discoverable by the eye. If much disturbed by being fired at, or if the eggs be repeatedly taken at the commencement of the season, it deserts the station first selected, and retires to some other place. The eggs of this bird are three or four in number, for the reception of which a shallow hole is scratched among the sea-campion, or other plants that may happen to grow on the selected place. The eggs are two inches in length, by one inch five lines in breadth; of a yellowish stone colour; thickly spotted with ash-grey, orange-brown, and deep red-brown, but subject to considerable variation in the markings. As soon as the young birds become tolerably fledged, but before they are altogether able to fly, they frequently take to the water, swimming off to the smaller rocks, where they continue to be fed by the parents until capable of joining them in their fishing excursions. The time of the arrival of the old birds is about the middle of May; incubation commences in the first week in June, and nearly the whole have again taken their departure for more southern latitudes by the end of September." Mr. Macgillivray, in his Manual, mentions having obtained this species in the Frith of Forth, and it was seen by the natural history party in Sutherlandshire, upon the Friths of Tongue and Eribol.

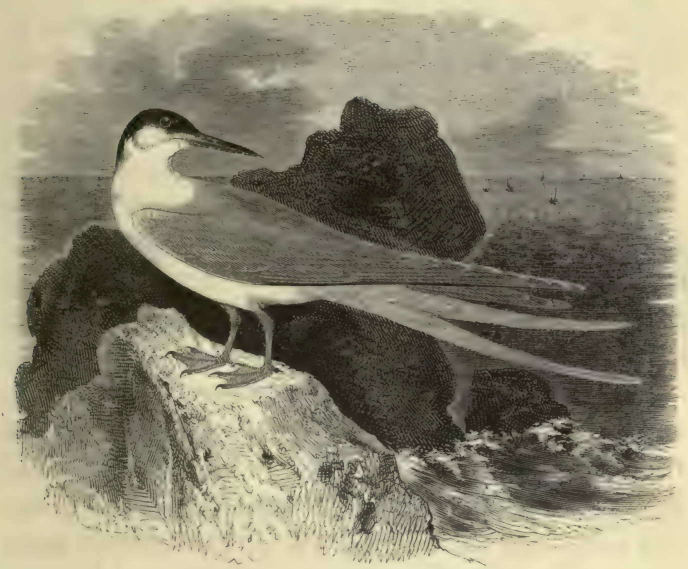
M. Nilsson says it is seen in the southern parts of Sweden occasionally; it is included among the birds of Germany, and M. Temminck says it is abundant in North Holland. It is found on the coast of France, and is said to breed on some islands off Ushant; it visits some of the lakes of Switzerland, is seen at Genoa, and goes eastward to Italy. It is found in various parts of Africa, and specimens were in the collection brought by Dr. Andrew Smith from the Cape of Good Hope.

Mr. Audubon, in his Birds of America, says the Sandwich Tern is seen from Texas, during spring and summer, to the Floridas, where it breeds in great numbers; but is never observed in any other part of the coast of America. Considered to be migratory.

The adult bird in summer has the bill black, the tip yellowish-white; the irides hazel; all the parts of the head above the eyes black; the feathers on the occiput elongated, forming a loose plume which ends in a point; cheeks, sides, and bottom of the neck behind white; back and wings ash-grey, the ends of the tertials almost white; the longest primary slate-grey, with a strong and broad white shaft, the next two or three primaries each a little lighter in colour than the first, and diminishing in colour in succession till they become of the same tint as the wing-coverts; the tail white and forked; chin, throat, neck in front, breast, and all the under surface of the body pure white; legs, toes, and their membranes black, claws curved and black. The whole length of the bird, from the point of the beak to the end of the longest tail-feather fifteen inches. From the carpal joint to the end of the longest quill-feather eleven inches; the first quill-feather the longest in the wing.

A young bird of the year killed on the 10th of August is about ten inches in length; the upper mandible dark brown, the under one pale brown at the base; forehead greyish white, top of the head and the occiput black; back and smaller wing-coverts ash-grey, varied with pale brown; greater coverts ash-grey, quill-feathers bluish-grey, the inner margins white, the outside quill-feather almost black, except the shaft which is white; tail-feathers varied with ash-grey and brown; legs, toes, and membranes dark brown.

The young bird figured in the illustration has the head mottled with black and white; the back, wing-coverts and tail-feathers varied with angular lines of black; in this state as to plumage it is the striated Tern of some authors.



THE ROSEATE TERN.

Sterna Dougallii.

Sterna Dougallii,	*Roseate Tern,*	MONTAGU, Suppl. Ornith. Dict.
„ „	„ „	BEWICK, Brit. Birds, vol. ii. p. 414.
„ „	„ „	FLEM. Brit. An. p. 143.
„ „	„ „	SELBY, Brit. Ornith. vol. ii. p. 270.
„ „	„ „	JENYNS, Brit. Vert. p. 265.
„ „	„ „	GOULD, Birds of Europe, pt. x.
„ „	*Hirondelle de mer Dougall,*	TEMM. Man. d'Ornith. vol. ii. p. 738.

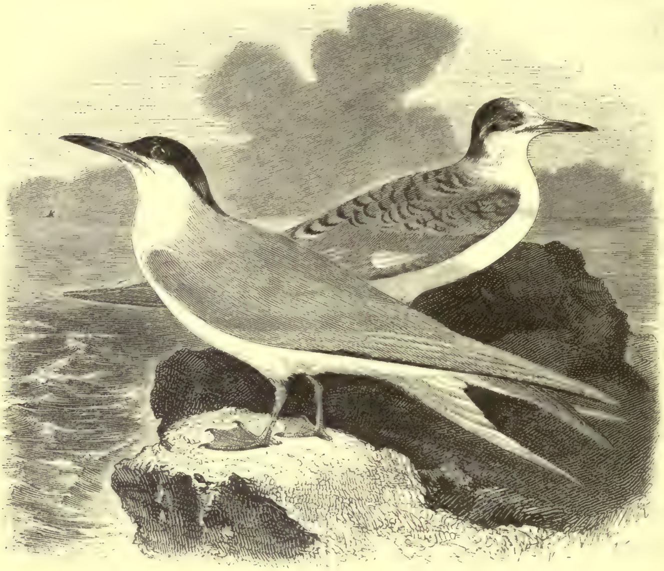
THE ROSEATE TERN was first discovered on two small rocky islands, called Cumbray, in the Firth of Clyde, by Dr. Macdougall of Glasgow, who sent a specimen and particulars to Colonel Montagu, from which a figure and description were inserted in the Supplement to his Ornithological Dictionary, published in 1813. Since that period this species has been found breeding at various stations frequented by other Terns, and is ascertained to be, like them, a regular summer-visiter, but not in very large numbers. Mr. Wm. Thompson obtained specimens in summer from a small rocky islet near the entrance to Belfast Bay. Mr. Heysham has recorded a specimen obtained at Brugh Marsh Point, on the Cumberland side of the Solway, and there is reason to believe that this Tern, with others, breeds on some of the low flat islands in the Solway Firth. Mr. Thomas Howitt sent me notice of its occurrence in Lancashire. T. C. Eyton, Esq. has recorded its capture in Shropshire. It has been killed in Cornwall and Devonshire, but does not appear so often on the southern shores as on those of the west or east coasts. Mr. Selby, in his account of the birds of the Farn Islands, says, "Several years ago the keeper of the outer Lighthouse first noticed this as a new and distinct species. Information was given me of the circumstance, and I went over to ascertain the fact, and having killed several, found them to be the *Sterna Dougalii*, or Roseate Tern of Montagu. Since that period they have greatly increased, and now form a numerous colony, which occupies a large space of ground near to that occupied by the Arctic Terns, and a second station upon one of the Walmseys. The old birds are easily recognized amidst hundreds of the other species, by their peculiar and buoyant flight, long tail, and note, which may be expressed by the word *crake*, uttered in a hoarse grating key. Its eggs are rather larger than those of *S. arctica*, and the young differ both in the early or downy, and in the feathered state." The eggs measure one inch nine lines and a half in length, by one inch two lines and a half in breadth; of a yellowish stone colour, spotted and speckled with ash-grey and dark brown, These birds live upon small fish.

This Tern in summer visits Norway and the Baltic; and Richard Dann, Esq. sent me word that it breeds in Lapland. It is included among the birds of Germany. M. Temminck says it is found on the coast of Holland in August and September, and breeds on some small islands on the coast of Brittany and Picardy. M. Calvi and M. Savi include it among the birds of Genoa and Italy. Dr. Heineken sent specimens from Madeira, and Dr. Andrew Smith brought others from the Cape of Good Hope. This species appears to have a very wide geographical range. Mr. Audubon mentions that he found this Tern breeding in abundance at the Florida Keys; and Mr. Gould, in his Birds of Europe, says he has received many skins from India, particularly from the coast of Malabar.

In the adult bird in summer the bill, from the point to the nostrils, is black, from thence to the base or gape red; the irides dark; all the top of the head black; neck all round white; back, wing-coverts, and quill-feathers ash-grey, the outer webs of the primaries dark grey, the inner webs lighter; tail-feathers very long, extending beyond the ends of the wings, the colour pale ash-grey; breast and all the under surface of the body white, strongly tinted with a delicate rose colour, whence the bird derives its name; legs, toes, and their membranes red. The whole length of the bird fifteen inches and a half. From the carpal joint to the end of the longest quill-feather nine inches and a quarter.

Mr. Selby describes the young bird of the year as having the bill black, orange-yellow at the base; forehead and crown of a very pale wood-brown; region of the eyes, ear-coverts, and nape of the neck black, the latter barred with pale wood-brown; back and wing-coverts bluish-grey, barred with blackish-grey, the feathers tipped with yellowish-white; quills grey, the exterior web of the first feather black; tail grey, the exterior webs the darkest, the tips of the feathers white; under parts white; legs pale red.

NATATORES. *LARIDÆ.*



THE COMMON TERN.

Sterna hirundo.

Sterna	*hirundo,*	*Common*	*Tern,*	PENN. Brit. Zool. vol. ii. p. 196.
,,	,,	,,	,,	MONTAGU, Ornith. Dict.
,,	,,	,,	,,	BEWICK, Brit. Birds, vol. ii. p. 207.
,,	,,	,,	,,	FLEM. Brit. An. p. 143.
,,	,,	,,	,,	SELBY, Brit. Ornith. vol. ii. p. 468.
,,	,,	,,	,,	JENYNS, Brit. Vert. p. 266.
,,	,,	,,	,,	GOULD, Birds of Europe, pt. xviii.
,,	,,	*Hirondelle de mer pierre garin,*		TEMM. Man. d'Ornith. vol. ii. p. 740,

THIS species was long considered more common than it really is, close examination having proved that two other distinct species of Terns very frequently occupy the same stations with it or localities very close to it, all of which were for a time confounded under the name of Common Tern: the great similarity in their habits, and the general resemblance in the birds while on the wing at a distance favouring the supposition.

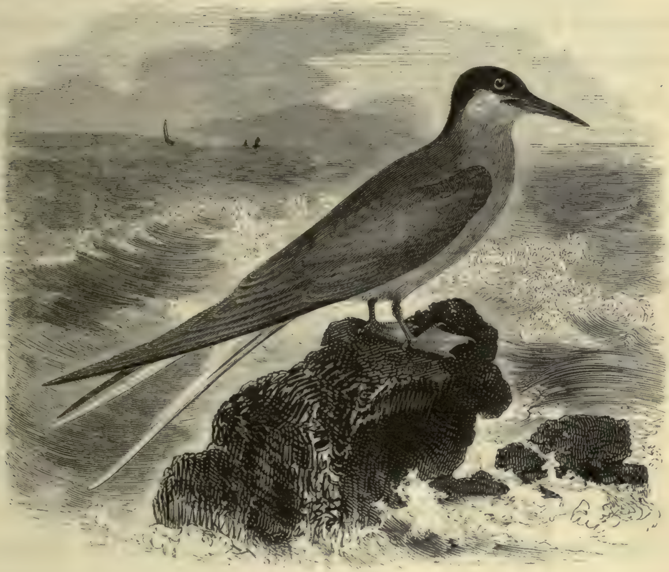
Although occasionally breeding on rocks or on banks of shingle, forming a sea-beach, the Common Tern appears to prefer building on the ground in marshes, or on small, low, flat, sandy islands near the sea, and sometimes on the margin of large lakes. They are known to follow the course of rivers going far inland; and Mr. Jesse, in his Gleanings, mentions an instance of one being shot in Bushy Park, others have been seen and shot high up on the Thames more than forty miles above Gravesend. They possess great powers of flight, are rapid and varied in their motions, noisy and restless; constantly on the wing over the water, either amusing themselves or looking for small fish upon which they subsist. They lay two or three eggs, and are very careful both of them and their young, making many signs of anger and distress when their nest is approached too nearly. The eggs are of a yellowish stone colour, blotched and spotted with ash-grey and dark red-brown; the length one inch eight lines by one inch two lines in breadth. Like the other species of this genus the Common Tern, which comes in May, leaves this country in September, and when about to take their departure, have been seen, like other swallows not of the sea, to collect in small flocks, and wait about as if desirous to increase their numbers before starting.

Mr. Wm. Thompson says this species is widely distributed in Ireland. It breeds in the Frith of Clyde, and Mr. Heysham mentions that it breeds near the western extremity of Rochcliff salt marsh, at no great distance from the junction of the rivers Eden and the Esk in Solway Frith, and a few pairs on Solway moss, and about these localities Mr. Heysham has known this species remain till the beginning of October. Priestholm isle, off the coast of Anglesey, and the Skerries are also visited. It is observed on the coasts of Cornwall, Devonshire, and Dorsetshire. It is said to be rather numerous about Winchelsea, Dungeness, and Romney Marsh. I have obtained it at the mouth of the Thames. It is found also on the east coast, and it is common along the shores of Suffolk and Norfolk, but more sparingly distributed on the coasts of Durham and Northumberland. It visits the Isle of May, in the Frith of Forth, and other parts of Scotland.

The Common Tern visits Germany, Holland, Switzerland, France, Spain, Genoa, Italy, Sicily, Malta, Biserta, Corfu, and Crete. The Zoological Society of London have received specimens sent by Keith Abbott, Esq. from Trebizond. It is found at Madeira, the Canary Islands, at Senegal, and in South Africa.

In the adult bird in summer the bill is coral-red, the point black, irides dark brown ; forehead, crown, and nape black ; back and wings ash-grey ; outside web of the first primary slate-grey, the shaft white, inner web light-grey ; tail-coverts white ; outer webs of tail-feathers pale ash-grey, inner webs white ; chin, neck, breast, and under surface dull white; legs, toes, and membranes coral-red. The whole length of the bird fourteen inches and a quarter; from the wrist to the end of the longest quill-feather ten inches and a half.

A young bird killed in August has the point of the beak dark brown, the base reddish-yellow ; forehead dull white ; posterior part of the crown, the ear-coverts, and the occiput black ; chin, and neck all round white ; back and wing-coverts ash-grey, each feather margined with ash-brown and white ; outer web of the first quill-feather black ; the others ash-grey ; under surface of the body white ; legs, toes, and membranes reddish-brown.



THE ARCTIC TERN.

Sterna arctica.

Sterna arctica,	*Arctic Tern,*	FLEM. Brit. An. p. 144.
" "	" "	SELBY, Brit. Ornith. vol. ii. p. 473.
" "	" "	JENYNS, Brit. Vert. p. 267.
" "	" "	EYTON, Rare Brit. Birds, p. 68.
" "	" "	GOULD, Birds of Europe, pt. iii.
" "	*Hirondelle de mer arctique,*	TEMM. Man. d'Ornith. vol. ii. p. 458.

M. TEMMINCK first pointed out the distinctions of this species which had previously been confounded with the Common Tern; these differences will be observed in the bill, the legs, and in the colour of the plumage of the under surface of the body. The bill is full one-quarter of an inch shorter than that of the Common Tern, measured from the point to the commencement of the black feathers on the forehead; it is also more slender in substance, a little more curved, and has only occasionally a small portion of black colour at the tip, most frequently without any black, all the rest coral-red. The legs are remarkable in having very short tarsal bones, which are characteristic of this species at all ages, and the plumage of the under surface of the body in the adult bird is of French grey, as dark as that of the back and wings; the same part in the Common Tern is white, and in the Roseate Tern the white is tinged with a rosy hue as already described.

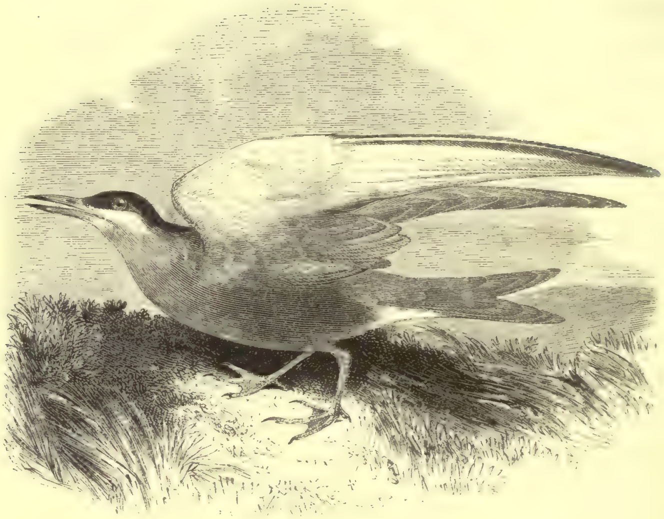
The Arctic Tern, thus distinguished was soon found to be even more numerous than the Common Tern, particularly in high northern latitudes, and it was seen in quantities by our Arctic voyagers, as references to the details of the Natural History productions of these different expeditions will show. It was found breeding on Melville Peninsula, and on the islands and beaches of the Arctic Sea. It was abundant in various parts of Greenland. Breeds in Iceland, and the Tern found at the Faroe Islands, and named by M. Graba, *Sterna brachytarsa*, is probably the Arctic Tern. It breeds also in Norway, Lapland, Sweden, and Holstein. Mr. Dunn says, "This Tern is plentiful in the summer both in Orkney and Shetland. It makes its nest on the gravelly beach, and low rocks, and sometimes amongst the short dry grass on the tops of low cliffs, always in exposed situations. The female lays three or four eggs. This bird is seldom seen but on the wing, in pursuit of the small coal-fish which abound in the harbours and inlets of these countries. It darts down upon them with great rapidity as they swim on the surface of the water. It is the only species of Tern I have met with amongst these islands." In the outer Hebrides, according to Mr. John Macgillivray, "the Common Tern is found as well as the Arctic, but the latter is much the more plentiful of the two. On several of the smaller and less frequented islands many hundreds of their eggs were taken in a few minutes, and in some places it was difficult to move without treading upon them; a loose cloud of Terns of both species hovering about uttering incessant cries, and darting down to within a few feet of the invaders of their peaceful territory." Mr. Wm. Thompson notices that it is common and widely distributed in Ireland; and Mr. Eyton says this Tern breeds on the Skerries, about nine miles north of Holyhead; but a most unusual number of this species made their appearance early in the month of May of the year 1842, in and about the estuary of the Severn, and up the line of its course. I heard of them at Swansea, from Mr. L. Dillwyn, and Mr. Bicheno; great numbers were seen and many obtained. At Monmouth the same thing happened. On the east side of the Severn Mr. Robert Whitefield, of the Water Farm, near Bridgewater, sent me notice of the appearance of this unusual visiter there. The following is an extract from the "Bristol Mirror." "During the high winds that prevailed on Sunday last, May 8th, our harbour and floating docks were visited by large flights of a rare and beautiful species of bird, the *Sterna arctica*, or Arctic Tern. The birds were assembled in such vast numbers that two or three hundred were killed with stones and other missiles, whilst several were caught alive; and so tame were they, that many were observed to pitch on the backs of passers-by. Flocks of these birds were also observed the same day at Clevedon, Weston, and other places along the channel coast." Mr. H. E. Strickland has published in the Annals and Magazine of Natural History for June, 1842, a notice of the simultaneous appearance of this bird over a large extent of country in the same vicinity. Forty specimens procured on the 8th and 9th were taken to one bird-preserver at Evesham. Mr. John Evans, of Grove House, Worcester, sent me notice of the numbers seen there, and thirty-three specimens were deposited with one bird-preserver. Hundreds were seen at Cofton Hall, near Bromsgrove, and Tewkesbury, Hereford, Devizes, and Trowbridge, are places mentioned as having been visited by considerable numbers. The wind had been blowing hard for many days from the east and N. E., but suddenly changed to the westward, continuing to blow hard. Some of the specimens had not acquired the perfect black head peculiar to the breeding-season, but all were on their route to their northern summer quarters, their intended course having been interfered with by the prevailing strong winds. A few of the Common Tern were said to have been found with them, but from the numbers seen by ornithologists who are well acquainted with species, the written descriptions I have received and some specimens I have seen that were sent up to London, I have no doubt that the great bulk of the flights were composed of Arctic Terns. I have been told that a few of this same species breed on the Scilly Islands every year, but it is not common generally on the south or south-eastern coasts. On the coasts of Lincolnshire, Durham, and Northumberland, it is again found. Sir William Jardine says it is perhaps the most common species in Scotland, and abounds during the breeding-season upon all the rocky islands in the Forth, from Queen's-ferry to the Farn Islands; and Mr. Selby says of Sutherlandshire, that this bird is abundant upon all the Friths, and upon the flat coast of Tongue. Mr. W. C. Hewitson, in his work on the eggs of British Birds, says, the Arctic Tern breeds in great numbers on Coquet

Island, a few miles south of the Farn Islands. The eggs, two or three in number, are very much like those of the Common Tern in shape, colour, and markings, but always smaller in size, measuring one inch seven lines in length, by one inch and one line in breadth.

The adult bird in summer has the bill coral-red, the extreme point sometimes black; forehead, crown, and nape black; back, wings, and wing-coverts pearl-grey; outer web of the first primary lead-grey: tail-coverts and tail-feathers almost white, the two longest tail-feathers on each side grey on the outer webs; cheeks white; chin and upper part of neck in front, and on the sides ash-grey; breast and all the under surface of the body as dark a grey colour as that of the back; legs, toes, and their membranes orange-red. The whole length of the bird from the point of the bill to the end of the middle, or short, tail-feather twelve inches and a half, to the end of the longest tail-feather two inches and a half more, or fifteen inches whole length; from the wrist to the end of the longest quill-feather eleven inches; length of the tarsus only half an inch.

A young bird of the year, nearly full grown, and measuring thirteen inches, has the bill dull brown at the point, the remainder red; forehead dull white; crown of the head mottled black and white; back of the head and nape uniform dusky black; back and wings pearl-grey; outer web of the first primary lead-grey, inner webs of all the primaries light grey, almost white; secondaries, tertials, scapulars, and small wing-coverts tipped with white; upper tail-coverts and tail-feathers white, the three long tail-feathers on each side with outer webs of slate-grey; throat, breast, and all the under surface of the body and wings at this age nearly pure white; legs, toes, and membranes orange.

NATATORES. *LARIDÆ.*



THE WHISKERED TERN.

Sterna leucopareia.

Sterna leucopareia, Moustache Tern, GOULD, Birds of Europe, pt. xviii.
,, ,, *Hirondelle de mer moustac,* TEMM. Man. d'Ornith vol. ii. p. 746.
,, *Delamotte,* ,, ,, ,, *de la Motte*, VIEILL. Faun. Franç. p. 402.

I AM indebted to the kindness and discrimination of T. C. Heysham, Esq. of Carlisle, for the advantage of inserting this species, new to the British catalogue, and of rare occurrence even on the European continent. At the end of August, 1836, a party of two or three persons went out in a boat from Lyme, to amuse themselves with shooting sea-birds, and this Tern, among others, was part of the produce of their guns. Mr. Heysham shortly afterwards had an opportunity of examining the skins of the birds obtained, selected that of the Whiskered Tern here figured from, and made the arrangement by which I became possessed of it.

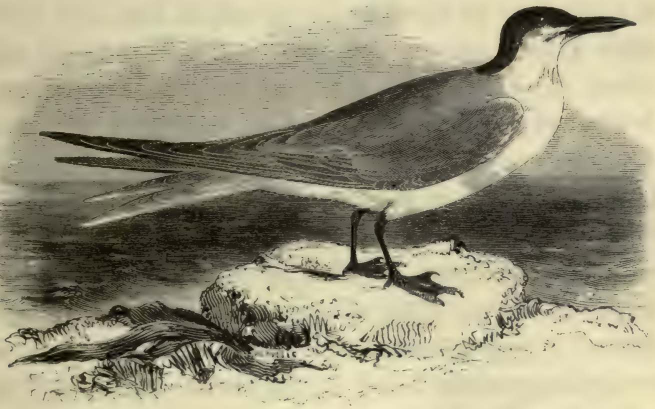
This species has not previously been killed nearer than the coast of Picardy, where M. Temminck states that M. Jules de la Motte, of Abbeville, once saw several examples in a marsh; he killed three; and M. Vieillot includes this Tern in consequence among the Birds of France.

But little is known of the habits of this Tern. It was first discovered in the southern part of Hungary, by M. Natterer, of Vienna. M. Brehm includes it in his Birds of Germany. M. Temminck mentions that he has met with this species in the marshes of Capo d'Istria, and on the coast of Dalmatia; it has been found also in Syria and in Egypt. M. Temminck further states that specimens received from Borneo do not differ in any respect from those obtained in Europe. M. Savi includes this Tern in his Ornithology of Italy, but considers it a very rare species, of which only three examples had been obtained.

It is said to feed on winged insects and aquatic worms; but its mode of nesting and its eggs are, I believe, as yet but little known. During his late visit to London, Dr. L. Thienemann gave me an egg of this rare Tern: it is one inch and a half long by one inch and one-eighth in breadth; the ground colour asparagus green, spotted with brownish-black, and a few spots of bluish-grey.

In the specimen killed on the Dorsetshire coast, and now before me, the bill is red, inclining to dark brown on the edges of both mandibles towards the point; the bill rather stout, with the inferior angle of the under mandible prominent, an approximation to the form of the under mandible in the Gull-billed Tern, next to be described, The irides brownish-black; forehead, crown, and nape black; from the base of the upper mandible, in a line below the eye to the ear-coverts a stripe of white, forming the whisker or moustache; back, wing-coverts, upper tail-coverts, and tail-feathers uniform dark grey, almost slate-grey; first quill-feather lead-grey on the outer web, and over a considerable portion of that part of the inner web nearest to the white shaft, the other part of the inner web white; the outer webs of the other primary and secondary feathers lighter grey than the inner webs; chin and throat greyish-white; neck and breast slate-grey, and as dark as the back; abdomen, thighs, and flanks lead-grey; under wing and tail-coverts white; legs, toes, and membranes red, the membranes deeply indented. From the point of the beak to the first feathers on the forehead one inch and one-eighth; from the point of the beak to the end of the middle, or short, tail-feathers, ten inches and a half, to the end of the outside, and longest tail-feather one inch more, making the whole length eleven inches and a half. From the carpal joint of the wing to the end of the first quill-feather, which is the longest, nine inches and one-quarter; length of the tarsus seven-eighths of an inch; of the middle toe three-quarters of an inch, claw of the middle toe three-eighths of an inch, strong and curved.

Adult birds in winter, according to M. Temminck, have the forehead, crown, occiput, neck, and all the under parts pure white; a black spot behind the eyes; mantle, back, wings, tail-coverts and tail-feathers uniform ash-grey; bill, legs, and feet deep lake-red. Young birds of the year have the crown of the head varied with red and brown; occiput and ear-coverts greyish-black; the feathers of the back, scapulars and secondaries brown in the middle, bordered and tipped with dirty flesh-colour; tail-feathers blackish-grey towards the end, but tipped with white; beak brown, red at the base; legs and feet flesh-colour.



THE GULL-BILLED TERN.

Sterna Anglica.

Sterna Anglica,	*Gull-billed Tern,*	Montagu, Supp. Ornith. Dict.
„ „	„ „ „	Bewick, Brit. Birds, vol. ii. p. 219.
„ „	„ „ „	Flem. Brit. An. p. 143.
„ „	„ „ „	Selby, Brit. Ornith. vol. ii. p. 480.
„ „	„ „ „	Jenyns, Brit. Vert. p. 269.
„ „	„ „ „	Eyton, Rare Brit. Birds, p. 97.
„ „	„ „ „	Gould, Birds of Europe, pt. vii.
„ „	*Hirondelle de mer hansel,*	Temm. Man. d'Ornith. vol. ii. p. 744.

This species was first made known by Colonel Montagu, who gave a figure and description of it in the Supplement to his Ornithological Dictionary, published in the year 1813; one specimen was shot by himself in Sussex, and he saw two others that had been killed at Rye. The birds obtained were at first confounded with the Sandwich Tern, but the form and length of the bill in the two birds, which are quite different, soon led Montagu to a just appreciation of the specific distinctions, and he called it S. *Anglica*, because it was not known to him as existing elsewhere. I have heard of two examples killed in this country, both in 1839; one in Kent, in the month of June, but of the other I have unfortunately mislaid the letter which contained the particulars. One has lately been taken near Leeds, and was noticed at the York meeting of the British Association. According to M. Vieillot it has been taken in Picardy, and on the coast of the Channel. M. Temminck says it is common in Hungary, and the confines of Turkey, and was included by M. Savigny among the Birds of Egypt. This species appears to have a most extensive geographical range. M. Temminck says he received a specimen killed in the United States, and two others from Brazil; these last were killed there by Prince Neuwied, and they did not either of them differ from those obtained on the lakes of Hungary. Mr. Selby says, "Upon investigating specimens from North America, I feel no hesitation in considering the Marsh Tern of Wilson's North-American Ornithology to be the same bird." Mr. Audubon also says, "Having taken six specimens of the American Marsh Tern to the British Museum, and minutely compared them in all their details with the specimens of the Gull-billed Tern, which formed part of the collection of Colonel Montagu, and were procured in the South of England, I found them to agree so perfectly that no doubt remained with me of the identity of the bird described by Wilson with that first distinguished by the English Ornithologist." Colonel Sykes, in his published account of the Birds of India, collected by himself, says of this species, my "specimens correspond exactly with specimens of this rare British Bird in the British Museum." Mr. Blyth has obtained this species at Calcutta.

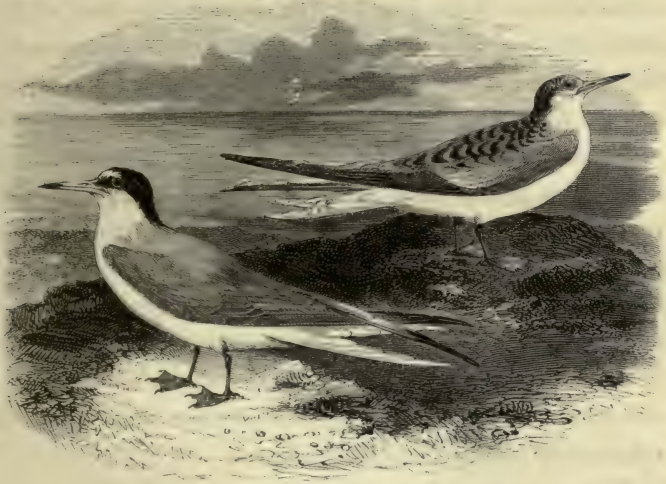
The specimens I have been able to examine, some from Germany and others in the British Museum, appear to me to be of the same species, the tarsus in all of them measuring one inch and a quarter, the middle toe and claw together being of the same length as the tarsus. M. Temminck mentioned that Boie had received specimens from the eastern coast of Jutland, where this bird is said to breed. Two examples were seen in the south of Holland, in the summer of 1839, by M. Temminck himself, one of which was obtained. M. Savi includes this species in his Birds of Italy. It visits the shores of the Red Sea; and M. Temminck says it is very abundant in the islands of Sunda, several specimens sent him from thence not differing from those of Europe. The *Sterna affinis* of Dr. Horsfield, obtained in Java, is considered also by M. Temminck to be of the same species.

This Tern feeds on small fishes and large insects; frequenting marshes rather than the sea coast, and lays two or three eggs, one in my own collection measures one inch eleven lines in length, by one inch four lines in breadth, of a dull greyish white, with a few spots of ash-grey, and a greater number of dark reddish brown.

In the adult in summer the bill is black, and one inch and a quarter in length from the point to the feathers on the forehead: the angle at the symphisis of the lower mandible rather prominent; irides reddish-brown; forehead, crown, and nape jet black; neck behind greyish-white; back, scapulars, wings, the coverts, secondaries, and tertials, upper tail-coverts and tail-feathers uniform pale ash-grey; the outside web of the first primary slate-grey, the other primaries pearl-grey; chin, throat, breast, belly, and all the under surface white; legs, toes, membranes, and claws black. The whole length of the bird figured from and described, fifteen inches and a half; wing from the wrist thirteen inches.

I have seen two or three specimens of the adult bird killed in winter, the head is then white.

A young bird of the year, measuring thirteen inches, has the bill bluish-black; head on the top dull white, varied with pale brown and dusky streaks; on the ear-coverts a spot of greyish-black; neck all round white; back, scapulars, and tertials orange-brown, spotted with darker brown; wing-coverts ash-grey, tipped with pale orange-brown; primaries pearl-grey; tail but little forked; chin, neck, and all the under surface of the body white.



THE LESSER TERN.

Sterna minuta.

Sterna minuta,	*Lesser Tern.*	Penn. Brit. Zool. vol. ii. p. 198.
„ „	„ „	Montagu, Ornith. Dict.
„ „	„ „	Bewick, Brit. Birds, vol ii. p. 209.
„ „	„ „	Flem. Brit. An. p. 144.
„ „	„ „	Selby, Brit. Ornith. vol. ii. p. 475.
„ „	„ „	Jenyns, Brit. Vert. p. 267.
„ „	*Little* „	Gould, Birds of Europe, pt. viii.
„ „	*Petite Hirondelle de mer,*	Temm. Man. d'Ornith. vol. ii. p. 752.

This pretty little bird, the smallest of the British Terns, but one of the most elegant as well as delicate examples of the species, is not uncommon during summer on such parts of the coast of the British Islands as are suited to its habits. It appears to prefer low flat shores, or islets, of sand, broken shells, or small shingle, coming here early in May, and laying two or three eggs before the end of that month in any small accidental depression in the ground above high water mark. I have found them in considerable numbers at the mouth of the Thames on the Kentish side, about Yantlet island, and the creek of the same name close by. When their breeding-haunts are visited they exhibit but little fear, settling on the ground not far from those who may be looking for their eggs or young, and will frequently walk about with a light step, or with a piping note again take wing. They fly with rapid beats of their long pinions, and from this circumstance look much larger in the air than when in hand. Their food consists of the fry of surface-swimming fish, and small crustacea, upon which they descend from the air, and I have frequently seen them alight on the water, sometimes evidently seeking food on the surface, and at others only resting from their labours.

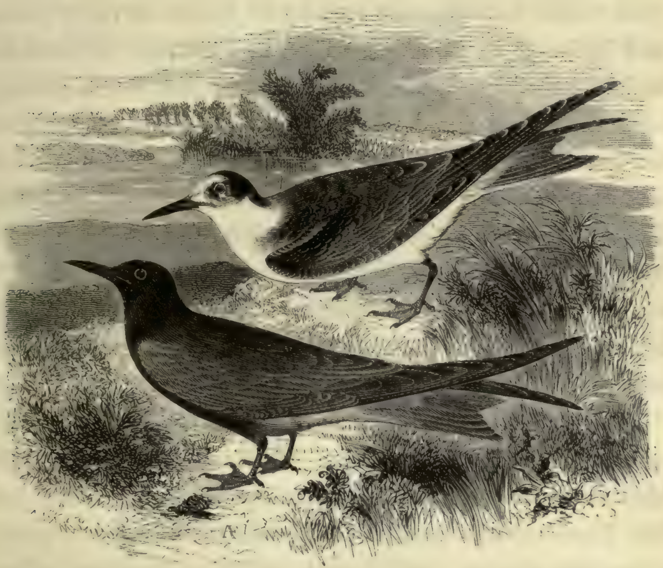
Their eggs are of a stone colour, spotted and speckled with ash-grey and dark chestnut-brown; the length one inch four lines, by eleven lines in breadth. The young are generally able to fly by the end of the second week in July; and Mr. Audubon mentions that they are fed for a time on the wing by their parents. Both old and young leave this country about the end of September, but I have a note of one seen on the 10th of October, 1839, and I received a notice from the Rev. William Howman of one that was exposed for sale in Norwich market, in the third week of the month of December.

This species visits many different places along the line of the southern coast from Cornwall to Sussex. It has been noticed on the shores of Essex, Suffolk, and Norfolk; was observed by Montagu to be numerous about Skegness, on the coast of Lincolnshire. Does not breed on the Farn Islands, according to Mr. Selby, but upon the beach of the main land near Holy Island, and on the shore of the Frith of Forth on both sides. Professor Macgillivray says it visits the sands near Aberdeen, and also some other localities on the west coast of Scotland. It frequents some of the sandy flats in the Solway Frith; and Mr. Wm. Thompson notices it as a regular summer visitant to Ireland.

M. Nilsson says it is common in summer on the shores of the Baltic; and it is said to visit Russia and Siberia. It is not very common in the interior of Germany, but is included in the different histories of the birds of that country. It is abundant on the coasts of Holland and France, but not commonly found inland. M. Savi includes it in his Birds of Italy; it is seen occasionally at Corfu and in Sicily; is common at Biserta; and is said to have been found at the Black and the Caspian Seas; but it is not mentioned in the catalogues of the Russian naturalists who have lately visited these localities. Mr. Gould mentions having received this species from India, and it is a common species in the United States.

In the adult bird in summer the beak is orange, tipped with black; irides dusky; forehead white, crown of the head and the nape jet black; back and wings uniform delicate pearl-grey, the first, second, and sometimes the third primary slate-grey; upper tail-coverts and tail-feathers white, tail forked; chin, throat, sides of neck, breast, and all the under surface of the body pure white; legs, toes, and membranes orange. The whole length of the bird rather more than eight inches; from the wrist to the end of the wing six inches and three-quarters. The adult bird in winter only varies in having the head dull black, instead of deep black.

The young bird of the year, as figured, has the point of the bill dark brown, the base pale brown; forehead and crown mottled with dusky brown, and greyish-white, more uniform in colour on the nape, and darker; back, wing-coverts, and tertials ash-grey, margined with dusky black; primaries slate-grey, margins of the inner webs white; secondaries ash-grey; tail-feathers spotted with dusky grey towards the ends; chin, sides of neck, breast, and all the under surface white; legs pale brown.



THE BLACK TERN.

Sterna fissipes.

Sterna fissipes,	*The Black Tern,*	PENN. Brit. Zool. vol. ii. p. 199.
,, *nævia,*		,, ,, ,, ,, 201.
,, *fissipes,*	,, ,,	MONTAGU, Ornith. Dict.
,, ,,	,, ,,	BEWICK, Brit. Birds, vol. ii. p. 217.
,, *nigra,*	,, ,,	FLEM. Brit. An. p. 144.
,, ,,	,, ,,	SELBY, Brit. Ornith. vol. ii. p. 477.
,, ,,	,, ,,	JENYNS, Brit. Vert. p. 268.
,, ,,	,, ,,	GOULD, Birds of Europe, pt. iv.
,, ,,	*H. de mer épouvantail,*	TEMM. Man. d'Ornith. vol. ii. p. 749.

THE BLACK TERN, of which we have figured an old male in his summer dress, and a young bird of the year in autumn, is like the other Terns only a summer-visiter here, but differs from them a little in its habits, seldom associating with them, or seen on the sea-coast except in spring, at the period of its arrival, or in autumn, when about to take leave for the winter. This species prefers fresh-water marshes, the vicinity of rivers or reedy pools, and is found in Cambridgeshire, in some parts of Norfolk, and Lincolnshire, but is a rare bird in the North of England, and is not found in Scotland, although it visits higher northern latitudes in other directions. The Black Tern is a summer-visiter to different parts of Ireland, and Mr. Robert Ball has noticed that it bred for years in succession by a small lake at Roxborough, near Middleton, in the county of Cork. Pennant notices a young bird of the year, in which state it is the *Sterna nævia* of some authors, that was shot on the Severn a few miles below Shrewsbury. Specimens have been obtained in Devonshire. Dr. Latham procured some in Hampshire. Montagu mentions that in his time it was common in Romney Marsh, in Kent, but Mr. Plomley, who resides there, tells me it is not so now; a few only are seen, and these in spring and autumn, apparently on their way to and from some other locality. Mr. Bond obtained some good specimens in the autumn of 1841, at the Kingsbury reservoir, in Middlesex. The Rev. Richard Lubbock sent me word that "The Black Tern used to breed in Norfolk in abundance, but that the great breeding-place in a wet alder carr at Upton, where twenty years back hundreds upon hundreds of nests might be found at the end of May, has been broken up for some years. The Blue Darr, as it is provincially termed here, has in consequence become scarce. Mr. Salmon told me that he got the eggs of this bird from Crowland Wash, in Lincolnshire, within the last two or three years. It can hardly be said at present to breed regularly in Norfolk, a few straggling pairs only still nest here." The eggs figured by Mr. Hewitson were supplied by Mr. Salmon, who obtained them from Crowland Marsh, where they are deposited upon tufts of grass and rushes, sometimes in very wet situations, and barely raised above the level of the water. The nest is composed of flags and coarse grass; the eggs usually three, but sometimes four; those in my own collection are of a dark olive-brown, blotched, and spotted with black, principally at the larger end; the length of the egg one inch five lines, by one inch in breadth. The food of this Tern consists chiefly of beetles and dragon-flies, with some small fish. The insect portion of its prey is taken on the wing with great ease and certainty, as the flight of the bird is rapid, and it turns, stops, or alters its course in an instant. Its note is shrill. The Black Tern makes its appearance here by the end of April, or the beginning of May, and leaves us early in October. Montagu mentions an instance of having seen a young bird in Devonshire as late as the beginning of November in 1802.

M. Nilsson says this species is rather common in Sweden, and it is included in the various histories of the Birds of Germany. M. Temminck says it is very abundant in Holland, and in the extensive marshes of Hungary. It is observed in some of the marshes of France; visits some of the lakes of Switzerland, and is seen at Genoa on its northern route in spring. M. Savi includes it in his Birds of Italy. It is seen at Corfu, in Crete, and in Sicily, in considerable numbers in May, but only a few remain to breed. Mr. Drummond says it is common about Biserta. The Zoological Society received a specimen, a young bird, sent by Mr. Ross from Trebizond; and the Russian naturalists found it also in the vicinity of the Caucasus.

Dr. Heineken includes the Black Tern in his catalogue of the Birds of Madeira.

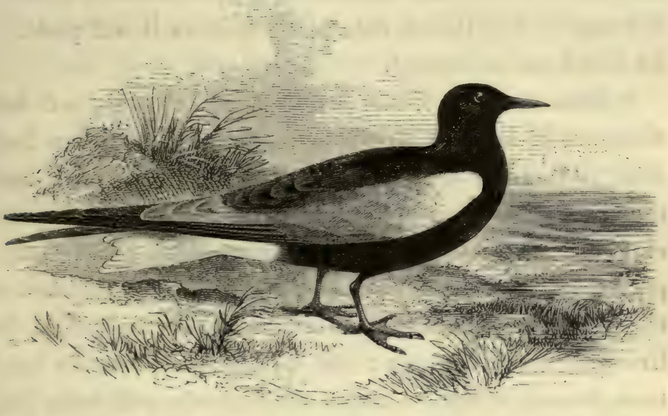
Pennant says Kalm saw flocks of hundreds of these birds in the Atlantic ocean, midway between England and America. The Black Tern is well known to the ornithologists of the United States, in some of which it is abundant.

Adult males and females in summer have the bill black; the irides dark brown; whole head and neck dark lead-grey; back, wings, and tail uniform slate-grey; breast and belly, like the head and neck, dark lead-grey; vent and under tail-coverts white; legs, toes, and their short membranes dark reddish-brown; the whole length of the bird nine inches and three-quarters; the tail less forked than in some other species; the wing from the carpal joint to the end of the first quill-feather eight inches and a half.

Adult birds in winter have the forehead, the space between the beak and the eye, the chin, and throat white, and I have seen an adult female specimen that had assumed this white colour before leaving this country in autumn. The other parts as in summer.

Young birds of the year have the bill brownish-black; forehead, chin, throat, and a collar round the neck white; crown of the head and the nape greyish-black; feathers of the back and wing-coverts light slate-grey, margined with brown or white, or partly with both; primaries dark slate-grey; the first primary lead-grey; rump and upper tail-coverts greyish-white; tail-feathers slate-grey; breast, belly, and all the under surface of the body and wings white. Before leaving this country the plumage on the upper surface of the body in the young bird loses the brown colour, becoming of a more uniform slate-grey, but clouded with dark lead-grey. This Tern having once assumed the dark colour peculiar to the breast and belly in summer, does not afterwards become white on those parts at any age or season.

NATATORES. *LARIDÆ.*



THE WHITE-WINGED BLACK TERN.

Sterna leucoptera.

Sterna leucoptera, *White-winged Tern,* GOULD, Birds of Europe, pt. xi.
„ „ *Hirondelle de mere leucoptère,* TEMM. Man. d'Ornith. vol. ii. p. 747
„ „ „ „ „ „ „ „ vol. iv. p. 463.

THE first notice of this handsome species, new to the History of British Birds, was published by Mr. Frederick M'Coy in the Annals of Natural History, vol. xv, page 271, and the following is the account there made known. "*Sterna leucoptera,* TEMM.—A specimen of this beautiful Tern was shot by J. Hill, Esq. on the Shannon, in 1841, in company with the Black Tern, *S. nigra,* with which it was confounded; the specimen was sent along with one of the latter species to the Natural History Society of Dublin, in whose museum they are now preserved; but from their general resemblance to each other, the present species has remained there undistinguished till the present time. As

I believe this to be the first record of the occurrence of this bird in Britain, I subjoin a short description of the specimen and a sketch half the natural size, to assist in drawing the attention of British naturalists to it, as it will probably be found not unfrequent.

"*Measurement.*—Total length, to extremity of tail, about eight inches; bill from base ten lines and a half, from rictus one inch five lines; greatest depth of both mandibles two lines and a half; middle toe, including the claw, eleven lines in length; tarsus eight lines; naked portion of the tibia four lines. *Colours.*—Legs and feet in the preserved specimen pale yellow, probably red in the living bird, claws darker; bill dark blackish-brown; head, neck, breast, abdomen, under wing-coverts, and back deep glossy black; small wing-coverts, tail, and upper and under tail-coverts pure white; first three quill-feathers black, with a broad longitudinal band of white on the inner webs; remainder of the wings ash-grey, becoming darker towards the body.

"The form, proportions, and size of this species are very nearly those of the Black Tern, *S. nigra*; like that species, too, the webs of the toes are very deeply indented, being reduced to a mere rudiment between the middle and inner toes. The two species are however easily distinguished,—the under wing-coverts of the *S. nigra* are white, of the *S. leucoptera* black; the tail of the former is dark grey, of the latter pure white; in the *S. nigra* the throat is white, breast and abdomen dark grey, and the back lead-colour, while in the *S. leucoptera* all those parts are black. I speak of both species in their perfect plumage."

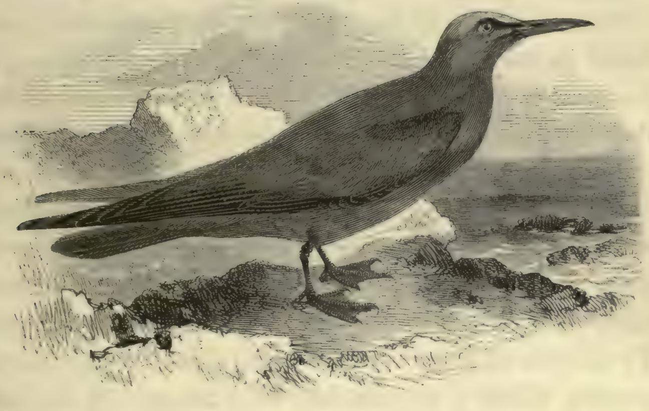
M. Temminck says, "this White-winged Tern inhabits the bays and inlets of the shores of the Mediterranean, and is very common about Gibraltar; it visits also the lakes, rivers, and marshes of the countries in the vicinity of the Alps; is very common about the lakes of Lucarno, Lugano, Como, Isco and Guarda; and is occasionally seen on the Lake of Geneva." It is included by Dr. Schinz in his Fauna Helvetica, but it is not seen in the north of France or in Holland. M. Brehm includes it in his work on the Birds of Germany, page 796, and M. Nilsson has given a very good figure of this species in the illustrations to his Fauna of Scandinavia, plate 121; M. Savi includes it in his birds of Italy, vol. iii. page 83; and M. Malherbe says that it appears in Sicily in spring, and is seen from Lake Lenteni to the environs of Catania and Syracuse, but is more rare in the northern part of the island. Mr. H. M. Drummond observed a few of this species on the river between the lakes at Biserta, about forty miles to the westward of Tunis, as recorded in the Annals of Natural History for August, 1845. M. Temminck also mentions that this Tern is common in spring in Dalmatia, but does not breed there, and was gone by July.

This species is not included in the lists of the Birds of Corfu, Crete, Smyrna, or Tripoli, to which I have so frequently had the advantage of referring, but Keith Abbott, Esq. sent a specimen from Trebizond to the Zoological Society in 1834. I do not find the name of this species in any of the lists of the birds of India, of China or Japan to which I have access.

The food of this Tern consists principally of dragon-flies, and other winged aquatic insects. Neither the eggs, nor the winter plumage of this species appear to be known. M. Temminck in a note in his Manual, vol. ii. page 748, mentions his strong supposition that the *Sterna plumbea* of Wilson may be this bird in winter; but in addition to the circumstance that the *Sterna leucoptera* is not included among the Birds of the United States by the ornithologists of that country, the *Sterna plumbea* of Wilson is now with good reason believed to be the young of *Sterna fissipis*, or *nigra*, as it is also called, in the plumage of its first autumn, and identical with the *Sterna nævia* of Pennant.

An adult male specimen in its summer plumage has the beak reddish-brown; the irides greyish-black; the head, neck, and middle of the back black, the feathers becoming lighter in colour towards the rump; upper tail-coverts and tail-feathers white; anterior portion of the outside of the wing white, passing into a light grey on the larger wing-coverts; the first, second, third, and sometimes as many of the first five of the primary wing-feathers black, the number depending on age, these have all white shafts, and with a considerable portion of white along the base of the broad inner web; the other primaries light grey; the secondaries, tertials, and the scapulary feathers slate-grey. The chin, neck in front, breast, belly, sides, and flanks black; under wing-coverts some black, others slate-grey; under tail-coverts, and under surface of the tail-feathers white; legs, toes, and their membranes pale yellow in the preserved bird, coral red in the living bird; the claws black, the interdigital membranes very much indented,

The whole length of the specimen described nine inches and a half; the wing from the anterior joint to the end of the first primary, which is the longest in the wing, eight inches and a quarter.



THE NODDY TERN.

Sterna stolida.

Sterna stolida,	*Black Noddy,*	JENYNS, Brit. Vert. p. 270.
Anous ,,	,, ,,	EYTON, Rare Brit. Birds, p. 70.
Sterna ,,	*Noddy Tern,*	GOULD, Birds of Europe, pt. xxi.
,, ,,	*H. de mer Noddy,*	TEMM. Man. d'Ornith. vol. iv. p. 461.

Two examples of this Tern were shot in the summer of 1840, between the Tasker Light-House, off the coast of Wexford, and Dublin Bay. The fact was recorded, after the examination of both specimens, by Wm. Thompson, Esq. of Belfast, in publications devoted to natural history, and was then the first record of the occurrence of the *Sterna stolida* in Europe. The specimens are both preserved. It has recently been stated by Thos. Austin, Esq. in the Annals and Magazine of Natural History, "that this species is a summer visiter to St. George's Channel, but is so exceedingly shy that the writer could never get a shot at one, though watching many times for a chance;

the bird seeks its food at some distance from land, but occasionally pursues its prey into the estuaries of the larger Irish rivers, or along the outer shores of the coast."

M. Temminck, in the 4th Part of his Manual, published in 1840, mentions that the Noddy has been seen on the coast of France, and Dr. Latham says he was told that they lay their eggs in vast numbers on certain small rocky isles near St. Helena.

Mr. Darwin found the Noddy breeding on St. Paul's rocks, half way across the Atlantic, when sailing from the Cape de Verd islands to South America, and observes that " this Tern makes a very simple nest with sea-weed. By the side of many of these nests a small flying-fish was placed; which, I suppose, had been brought by the male bird for its partner. It was amusing to watch how quickly a large and active crab (*Grapsus*), which inhabits the crevices of the rocks, stole the fish from the side of the nest, as soon as we had disturbed the birds."

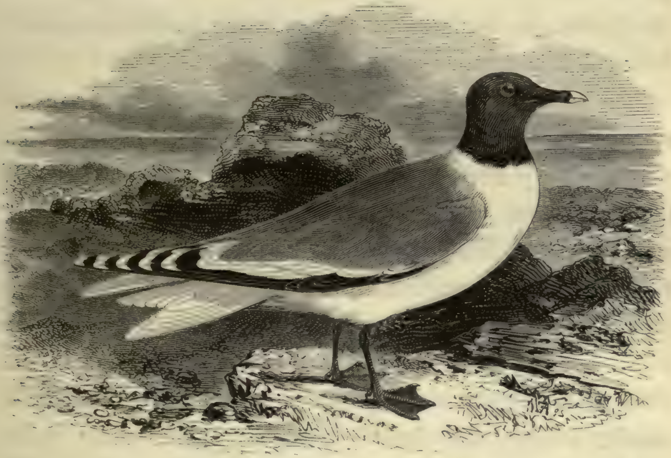
Mr. Audubon says, " about the beginning of May the Noddies collect from all parts of the Gulf of Mexico and the coasts of Florida, for the purpose of returning to their breeding places on one of the Tortugas called Noddy Key. These birds form regular nests of twigs and dry grass, which they place on the bushes or low trees, but never on the ground. On visiting their island on the 11th of May, 1832, I was surprised to see that many of them were repairing and augmenting nests that had remained through the winter, while others were employed in constructing new ones, and some were already sitting on their eggs. In a great many instances, the repaired nests formed masses nearly two feet in height, and yet all of them had only a slight hollow for the eggs, broken shells of which were found among the entire ones, as if they had been purposely placed there. The birds did not discontinue their labours, although there were nine or ten of us walking among the bushes, and when we had gone a few yards into the thicket, thousands of them flew quite low over us, some at times coming so close as to enable us to catch a few of them with the hand. On one side might be seen a Noddy carrying a stick in its bill, or a bird picking up something from the ground to add to its nest; on the other, several were seen sitting on their eggs unconscious of danger, while their mates brought them food. The greater part rose on wing as we advanced, but re-alighted as soon as we had passed. The bushes were rarely taller than ourselves, so that we could easily see the eggs in the nests. This was quite a new sight to me, and not less pleasing than unexpected. The Noddy, like most other species of Terns, lays three eggs, which average two inches in length, by an inch and three-eighths in breadth, and are of a reddish-yellow colour, spotted and patched with dull red and faint purple. They afford excellent eating, and our sailors seldom failed to collect bucketsful daily during our stay at the Tortugas. The wreckers assured me that the young birds remain along with the old through the winter, in which respect the Noddy, if this account be correct, differs from other species, the young of which keep by themselves until spring. At the approach of a boat, the Noddies never flew off their island, in the manner of the Sooty Terns. They appeared to go farther out to sea than those birds in search of their food, which consists of fishes mostly caught amid the floating sea-weeds, these Terns seizing them, not by plunging perpendicularly downwards, as other species do, but by skimming close over the surface in the manner of Gulls, and also by alighting and swimming round the edges of the weeds. This I had abundant opportunities of seeing while on the Gulf of Mexico. The flight of this bird greatly resembles that of the Night-hawk when passing over meadows or rivers. When about to alight on the water, the Noddy keeps its wings extended upwards, and touches it first with its feet. It swims with considerable buoyancy and grace, and at times immerses its head to seize on a fish. It does not see well by night, and it is for this reason that it frequently alights on the spars of vessels, where it sleeps so soundly that the seamen often catch them. When seized in the hand it utters a rough cry, not unlike that of a young American Crow taken from the nest. On such occasions it bites severely, with quickly-repeated movements of the bill, which, on missing the object aimed at, close with a snap. Some which I kept several days refused all kinds of food, became dull and languid, and at length died. While hovering over us near their nests, these birds emitted a low querulous murmur, and, if unmolested, would attempt to alight on our heads. After a few visits, however, they became rather more careful of themselves, although the sitting birds often suffered us to put a hat over them. This species incubates both day and night."

Dr. Latham, in his Synopsis, observes that this bird is said to breed in the Bahama Islands, laying the eggs on the bare rocks; on the Roca Islands, and various parts of the coast of Brazil, and Cayenne. Catesby, in his Natural History of Carolina, mentions having seen this bird more than a hundred leagues from land. According to Mr. Collie's notes, this species was seen in the Pacific at several different places at various seasons of the year, as mentioned in the volume devoted to the Zoology of Captain Beechey's voyage in the Blossom, p. 38.

The following extract in reference to the habits of this bird in Australia forms part of a letter from Mr. Gilbert, who was collecting for Mr. Gould in Western Australia. "The Noddy and its allied species are the most numerous of all the inhabitants of the Houtmann's Abrolhos, breeding in prodigious numbers; the bird lays in November and December, forming a nest of sea-weed about six inches in diameter, and varying in height from four to eight inches, but without anything like regularity of form; the top is nearly flat, there being but a very slight hollow to prevent the egg rolling off. The nests are so completely plastered with their excrement, that at first sight it appears to be almost the only material; they are either placed on the ground, in a clear open space, or on the tops of the thick scrub, over the *Sterna fuliginosa:* these two species incubate together in the utmost harmony, the bushes to an immense extent wearing a mottled appearance, from the great mass of birds of both species perched on the top, the male *Sterna fuliginosa* sitting quite close to the nest of the Noddy, while its mate is beneath, performing her arduous duties of incubation. On walking among these birds' nests, I was surprised to observe the extreme tenacity with which they kept their post; in fact they would not remove off the egg or young, but suffered themselves to be fairly trod upon, or taken off by the hand; and so thickly were these nests placed, that it was no easy matter to avoid crushing either birds or eggs at every step. In the middle of January I found the eggs very nearly ready to hatch, and but few young birds; in numerous instances the bird would suffer me to take it by the wing and throw it off the nest, but would immediately return, although I was still standing close to the spot. There would be an overwhelming increase of this species yearly but for one check which nature has provided against it in the presence of a lizard, which is extremely abundant about their breeding-places, and which finds an easy prey in this and *S. fuliginosa.* I am satisfied, from constant observation, that on an average, not more than one out of every twenty birds hatched ever reach maturity, or live long enough to take wing; besides this, great numbers of the old birds are constantly killed: these lizards do not eat the whole bird, but merely extract the brains and vertebral marrow; the remainder, however, is soon cleared off by the *Dermestes lardarius*, which is here in amazing numbers, and gave me a great deal of uneasiness and constant trouble to preserve my collection from their repeated attacks. I did not observe the Noddy inhabiting any other but South Island; they do not appear to go far out to sea to feed, finding an abundance of food immediately outside the outer reef; nor did I in any one instance observe it feeding in the smooth quiet water between the outer reef and the islands. Their food consists of small fish, small mollusca, medusæ, cuttle-fish, &c."

In the adult bird the bill is black, from the base of the bill to the eye is also black; irides brown; the forehead and crown buff-colour; occiput smoke-grey; the whole of the body above and below and all the wing-coverts dark chocolate-brown; primaries and tail-feathers brownish-black; legs, toes, membranes and claws black. The whole length of the specimen here figured and described fourteen inches and a half to the end of the tail, which is graduated, the middle pair of feathers being the longest; the wing, from the carpal joint to the end of the first quill-feather ten inches and a half.

An egg in my own collection, and one from Australia, given me by Mr. Gould, agree exactly with Mr. Audubon's description both in measurements and markings.



SABINE'S GULL.

Larus Sabini.

Larus Sabini,	*Sabine's Gull,*	Jenyns, Brit. Vert. p. 270.
Xema ,,	,, *Xeme,*	Eyton, Rare Brit. Birds, p. 64.
,, ,,	,, *Gull,*	Gould, Birds of Europe, pt. xxi.
Larus Sabinei,	*Mouette de Sabine,*	Temm. Man. d'Ornith. vol. iv. p. 488.

Larus. *Generic Characters.*—Bill of moderate length, strong, hard, compressed, cutting, slightly curved towards the point, lower mandible shorter than the upper, the symphisis angular, prominent. Nostrils lateral, near the middle of the beak, pierced longitudinally, pervious. Legs slender, lower part of the tibiæ naked, the tarsus long, three toes in front entirely palmated, the hind toe free, short, articulated high up on the tarsus above the line of the other toes. Wings long, the first quill-feather nearly as long as the second, which is the longest in the wing. Tail square at the end or slightly forked.

The prominent angle at the symphisis of the under mandible; the extent of the palmated membrane between the toes, and the almost square tail observed, more or less, in some of the Terns indicate a degree of connection with the

Gulls; and the Gull here first inserted, by its slightly forked tail, exhibits one point of resemblance to the greater number of the Terns. Like the Terns, too, some of the smaller Gulls assume during the breeding-season a dark-coloured head.

The species of the genus *Larus*, or the Gulls, are numerous, and most of them have a wide geographical range. They frequent the ocean, many of them living on the coast, but occasionally visiting inland lakes, rivers, and marshes. They are voracious feeders, living on fish alive or dead, and seldom refuse any animal matter that is cast ashore by the tidal waves. The young differ from the adult birds in plumage, and are not allowed to associate with them at the nesting place, whether it be rock or marsh, during the breeding-season. The adult birds undergo a partial change of colour in spring, besides the regular general moult in autumn. The sexes do not differ in plumage; but the males are larger than the females, and this difference is so considerable in the Gulls of large size as in some instances to have led to the supposition of new, or distinct species.

We are indebted to Wm. Thompson, Esq. of Belfast, for the first notice of Sabine's Gull as an addition to the British Fauna, and also for a description of the plumage of the young bird in its first autumn dress, which had not previously come under the inspection of the ornithologist. The first specimen was shot in Belfast Bay, in September, 1822, and was presented to the Natural History Society of Belfast for the museum, in 1833. In the Museum of the Royal Dublin Society, Mr. Thompson has also pointed out a second example of this Gull, which is also in the plumage of the first autumn. This bird was shot in Dublin Bay by Mr. Wall, the curator. In October, 1837,

H. H. Dombrain, Esq., of Dublin, wrote me word that he had obtained a third example of this Gull, which was also a young bird of the year. Since then I have notes of one killed at Milford Haven, in the autumn of 1839, and another shot in Cambridgeshire was shown to me by Dr. Fitch. This last bird is now in the collection of J. T. Martin, Esq. of Quy Hall. M. Temminck, in the 4th Part of his Manual, notices three instances of the occurrence of this species known to him; one, a young bird, killed on the coast of Holland; a second, killed on the Rhine; and a third near Rouen. M. Temminck has also noticed that there is one example of this bird in the Museum at Vienna.

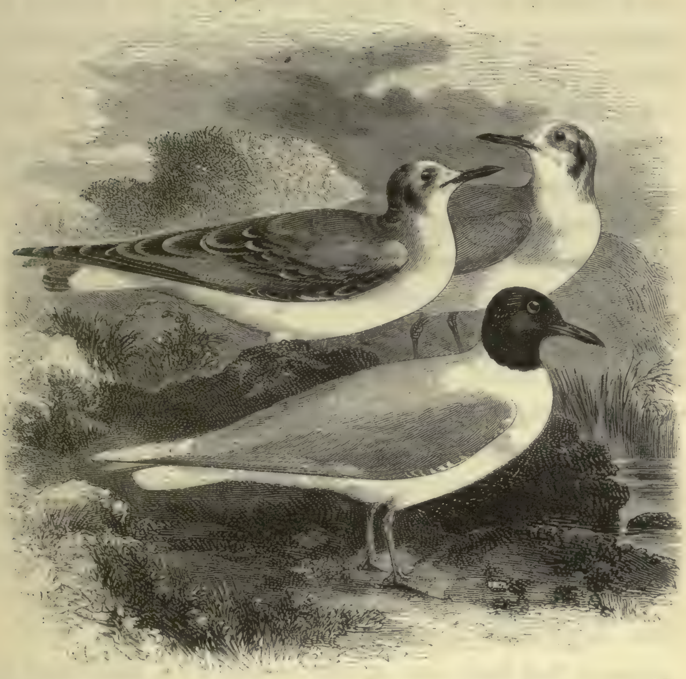
This species of Gull was first described in the 12th volume of the Transactions of the Linnean Society, page 520, by the late Joseph Sabine, Esq. from specimens sent by his brother, Captain Edward Sabine, of the Royal Artillery, who accompanied the expedition of 1818 in search of a North-West Passage. The account of these birds was that "they were met with by Captain Sabine, and killed by him on the 25th of July, 1818, on a group of three rocky islands, each about a mile across, on the west coast of Greenland, twenty miles distant from the mainland in latitude 75° 29′ N., and longitude 60° 9′ W. They were associated in considerable numbers with Arctic Terns, breeding on those islands, the nests of both birds being intermingled. This Gull lays two eggs on the bare ground; these are hatched the last week in July; the young are mottled at first with brown and dull yellow. The eggs are an inch and a half in length, and of regular shape, not much pointed; the colour is olive, blotched with brown. The parent birds flew with impetuosity towards persons approaching their nests and young; and when one bird of a pair was killed, its mate, though frequently fired at, continued on wing close to the spot where it lay. They get their food on the sea-beach, standing near the water's edge and picking up the marine insects which are cast on shore."

During the second Arctic voyage one bird of this species was seen in Prince Regent's Inlet; afterwards many specimens were obtained on Melville Peninsula. It has been found also at Spitzbergen, Igloolik, Bhering's Straits, Cape Garry, and Felix Harbour. Some Esquimaux also told Captain James C. Ross that it breeds in great numbers on the low land west of Neityelle.

Mr. Audubon mentions that he saw one flying over the harbour of Halifax in Nova Scotia, and that they had been seen in abundance on one occasion about one hundred miles off Newfoundland.

The following is Mr. Sabine's full description of the adult bird in its summer-plumage:—The bill one inch long, the base of both mandibles black, as far as the angular projection of the lower mandible, the remainder yellow; the inside of the mouth bright vermilion. The irides dark, surrounded by a naked circle of the same colour as the inside of the mouth; a small white speck beneath the eye scarcely perceptible. The whole of the head and upper part of the neck a very dark ash, or lead colour; the remainder of the neck behind and before, as well as the breast and belly, pure white; a narrow black collar surrounds the neck at the meeting of the ash-colour and of the white. The back, scapulars, and wing-coverts are ash-coloured, very much lighter than the head, but darker than the corresponding parts of the *Larus ridibundus;* the lower ends of the scapulars are tipped with white. The first five primary quill-feathers with black shafts, the whole outer webs of these black, the edge of their upper webs white to within an inch and a half of the tips, the white sometimes continued to the tip ; the tips of the first and second of these quill-feathers in some white, in others black; the tips of the third, fourth, and fifth white, giving the wing when closed a spotted appearance ; the sixth primary quill-feather with a white shaft, having the web more or less black, but principally white, with sometimes a black spot near the end; the other primaries, the secondaries, and the tertials, white ; the whole under parts of the wings white. The wings extend an inch or more beyond the longest feather of the tail. The legs, feet, and claws black ; the thigh feathered to within three-eighths of an inch of the knee: the tail with its upper and under coverts white ; the tail-feathers twelve, the outer narrower than the centre ones; the outer tail-feathers about one inch longer than those in the middle. It is probable that in its immature and winter state it resembles other black-headed Gulls, in being divested of the dark colour of its head. The whole length thirteen inches ; wing, from the wrist ten inches and three-quarters.

Mr. Thompson's description of the autumnal plumage of the young bird of the first year, is, "the forehead, space immediately above the eye, and between it and the bill, (with the exception of the narrow line of greyish-black closely encircling the front and lower part of the eye,) upper part of the throat, and sides of the neck, are white ; crown, nape, and back of the neck, blackish grey ; back, scapulars, greater and lesser wing-coverts, blackish-grey, tinged with yellowish-brown, the extremity of every feather varying from greyish-white to white, as it approaches the tail ; under part of the throat, and upper part of the breast, pale ash-colour; lower breast and all the under plumage, white; shafts of the first six primaries brownish-black at base, becoming gradually darker towards the extremity, where they are black in the first three, but in the fourth, fifth, and sixth assimilate in colour to the feather at that part, which is white; the entire of the outer webs of the first five black; the inner webs with a broad edging of white, to within from one to two inches of the end, which part is black in the first three, but tipped with white in the fourth and fifth; in the sixth the inner web is white, the outer black, excepting for three or four lines from the tip, where it is white, and again at about an inch from the end where a white spot of an oval form appears. Feathers of the tail white, with black tips."



THE LITTLE GULL.

Larus minutus.

Larus	*minutus,*	*Little Gull,*	MONTAGU, Supp. Ornith. Dict.
,,	,,	,, ,,	BEWICK, Brit. Birds, vol. ii. p. 246.
,,	,,	,, ,,	FLEM. Brit. An. p. 142.
,,	,,	,, ,,	SELBY, Brit. Ornith. vol. ii. p. 484.
,,	,,	,, ,,	JENYNS, Brit. Vert. p. 271.
Chroicocephalus	,,	,, ,,	EYTON, Rare Brit. Birds, p. 61.
Xema	,,	,, ,,	GOULD, Birds of Europe, pt. xi.
Larus	,,	*Mouette pygmée,*	TEMM. Man. d'Ornith. vol. ii. p. 787.

THIS interesting Little Gull, the smallest I believe of its genus, was first described and figured as a British bird by Colonel Montagu, in the Appendix to the Supplement of his Ornithological Dictionary, from a young bird in the plumage of the first year, that was shot on the Thames near Chelsea, and then in the possession of Mr. Plasted of that place, at the sale of whose collection it passed into the possession of Mr. Leadbeater. Mr. Bullock's celebrated collection contained two specimens in 1819 which were then considered very rare. Since that time various specimens have occurred in different states of plumage. Mr. Selby has noticed one killed in the Frith of Clyde. Dr. Neill obtained a specimen from the Solway, in the autumn of 1824, which was presented by him to the Edinburgh Museum. An adult bird, in summer-plumage, when it has a fine black head, was shot in Ireland on the river Shannon, as recorded by Wm. Thompson, Esq.; the only specimen obtained in the British Islands in that state of plumage that I am aware of. This species has also been killed on the shores of Cornwall and Devonshire, but occurs more frequently on the eastern coast. I have referred to one killed on the Thames. Dr. Waring gave Mr. Leadbeater a beautiful adult specimen in winter-plumage that was shot at the mouth of a small river in Essex. The late Mr. Hoy obtained one on the Suffolk coast in 1832; and Mr. Fuller, of Lowestoff, obtained a specimen in that vicinity. It has been met with at Yarmouth in Norfolk. Mr. Hawkridge, of Scarborough, shot a young bird there in November, 1836, and obligingly allowed me the use of it for this work; the figure and description of the young bird of the year here given, were taken from that specimen. Mr. A. Hancock, of Newcastle, has noticed one killed in September, 1835, at the mouth of the Tyne, and it has also been taken in Scotland.

On the 24th of December last, 1844, a specimen of the Little Gull in the plumage of its first winter was obtained in Cornwall, and is now in the collection of E. H. Rodd, Esq. of Penzance.

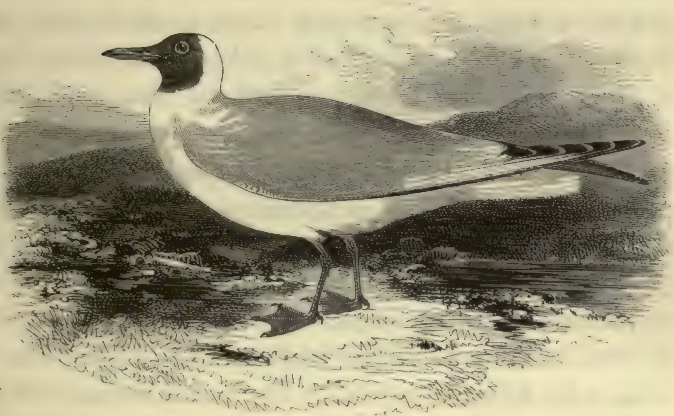
Professor Nilsson says this species is a summer-visiter to the marshes in the vicinity of the Baltic and Gottland, where it breeds, but he has never seen the eggs; it is also said to visit Russia and Siberia. It is included by the ornithologists of Germany among the birds of that country. M. Temminck says he has killed two, and examined several others in Holland. Professor Necker and Dr. Schinz have recorded four or five instances of this species having been taken about different lakes in Switzerland. It has been observed at Genoa; M. Savi includes it in his Birds of Italy, and it is seen on the Adriatic and the Mediterranean every season. It is said to be found about the Caspian Sea in winter.

It feeds on insects and worms, according to M. Temminck; but very little of its habits are known. On more than one occasion when shot in this country it was associated with Terns.

The figure of this bird in its summer-plumage at the head of this subject, was taken from a specimen given me by Mr. Gould. In this specimen the bill is reddish-brown; the irides very dark brown; the whole of the head and the upper part of the neck all round is black; the neck below white; the back, wing-coverts, and wings, uniform pale ash-grey, the outer primaries darker grey, with white at the end and on the inner margin of the web; upper tail-coverts and tail-feathers white, the tail in form square at the end; all the under surface of the body and under tail-coverts white; legs, toes, and membranes vermilion.

An adult bird in winter has the bill almost black; irides dark brown; forehead and upper part of neck in front, and on the sides pure white; occiput and nape of the neck streaked with greyish-black on a white ground; a dusky spot under the eye, and an elongated patch of dusky black falling downwards from the ear-coverts; all the other parts as in summer.

The young bird of the year killed in the middle of November, had the bill black, irides very dark brown; forehead and lore white; top of the head, occiput, and ear-coverts, greyish-black; nape of the neck white, forming a collar by uniting with the white of the front; below the nape a broader black band extending towards, but not reaching, the wings; back, scapulars, and tertials pale pearl-grey, with a few black feathers appearing through; wing-primaries and secondaries greyish-black, tipped with white, nearly the whole of the inner webs white; greater wing-coverts pearl-grey; smaller coverts black, edged with grey; upper tail-coverts white; upper surface of tail-feathers white, with a broad terminal band of black, which is broadest on the middle feathers, the outer tail-feather on each side wholly white; all the under surface of the body and wings, under tail-coverts, and each outside tail-feather white, the other tail-feathers white with a narrower margin of greyish-black; legs, toes, and interdigital membranes in this preserved specimen pale yellow-brown. Whole length ten inches and one-eighth; wing from the wrist eight inches and three-quarters.



THE MASKED GULL.

Larus capistratus.

Larus	*capistratus,*	*Masked Gull,*	Flem. Brit. An. p. 142.
„	„	*Brown-headed Gull,*	Jenyns, Brit. Vert. p. 272.
Chroicocephalus	„	„ „ „	Eyton, Rare Brit. Birds, p. 63.
Larus	„	*Mouette à masque brun,*	Temm. Man. d'Ornith. vol ii. p. 783.

This species, first distinguished and separated from *Larus ridibundus* by M. Temminck, appears to be very rare, since even now, when so much attention is devoted to ornithology, but very few specimens are known. The first notice of it as a British Bird that I am acquainted with in print, occurs in the sale catalogue of Mr. Bullock's collection, published in April, 1819. On the fifth day, a day devoted to the sale of British Water-Birds, the sixty-third lot, page 32, is "Brown-headed Gull, *L. erythropus*, male and female, young and eggs; taken at Westra, in the Orkneys;" and was bought by Dr. Leach. From these examples, M. Temminck, who was in London at that time, to attend the sale of so important a collection, probably became aware that this species was found in Orkney, and included that locality among others for this species, in the second edition of his Manual, published in 1820. In 1831 Mr. William Lord presented to the Zoological Society about thirty skins of birds collected during the previous summer in Shetland; among them was one specimen of the Masked Gull, or Brown-headed Gull, as it was also called, the *Larus capistratus* of Temminck, of which I published a description with measurements in the Society's proceedings for that year, page 151. In 1833, in a notice of birds found near Carlisle, published by T. C. Heysham, Esq., is the following record: "The Lesser Brown-headed Gull, *Larus capistratus.* An immature female of this rare Gull was accidentally procured near Sandsfield on the 6th of June. It was found associating with several of the Black-headed species, *Larus ridibundus*, but remained after all its congeners had taken wing, was shot at, and fortunately killed. From an inspection of this bird, we are satisfied that this species may be very easily overlooked and that many ornithologists would consider it merely a small specimen of the Black-headed Gull. We have deemed it advisable, therefore, to give its weight and dimensions. Weight eight ounces and a quarter; length fourteen inches and a half; extent of the wings thirty-six inches; bill to the front one inch and one tenth; bill to the gape, or rictus, one inch and eight-tenths; tarsi one inch and six-tenths; middle toe and claw one inch and five-tenths." T. C. Eyton, Esq. in his catalogue of the birds of Shropshire and North Wales, mentions that one specimen had been killed near Bangor, and was in his own collection.

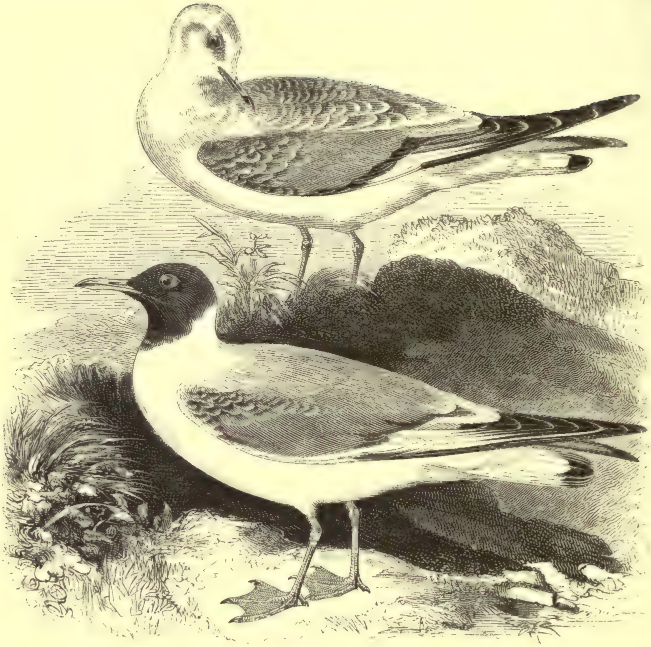
M. Temminck says this species has been taken in Baffin's Bay and Davis' Straits. Professor Calvi of Genoa notices two taken there, one in the year 1826, the other in 1827. M. Temminck mentions that the eggs of this species, which he had seen, were smaller than those of *Larus ridibundus*, of an ash-green colour, with darker spots, and mentions also that M. de Selys Longchamps had sent him word that he had seen one example of this bird in the collection of the Marquis Durazzo, which had been killed in Liguria. M. Savi includes this species in his Birds of Italy.

This Gull is best distinguished from the species next to be described by its smaller size, its shorter and more slender bill, its shorter legs, and smaller feet; and in its summer-plumage by the hair-brown feathers about the head forming a mask and not a hood.

The particulars of the bird in summer-plumage from Shetland, are —The bill brownish-red; the head and upper part of the neck on the sides and front hair-brown, bounded by blackish-brown; no dark colour on the occiput, but descending low on the fore part of the neck, where some of the dark feathers were tipped with white; the remaining portion of the neck, the breast, abdomen, vent, and tail, pure white; upper surface of the wings pale ash-grey, under surface greyish-white; primaries white, edged and tipped with black, broadest on the inner web, the shafts white; legs and toes brownish-red.

In winter this bird, like all the Gulls which have dark-coloured heads in summer, have the head white, with a few dusky grey lines on the crown, a small patch of dusky black under the eye, and another upon or under the ear-coverts. The rest of the plumage as in summer, except that the black colour on the wing-primaries is more intense from the recent renewal of the feathers at the autumn moult.

NATATORES. *LARIDÆ.*



THE BLACK-HEADED GULL.

Larus ridibundus.

Larus	*ridibundus,*	*Black-headed*	*Gull,*	Penn. Brit. Zool. vol. ii. pp. 189, 191, and 192.
,,	,,	,, ,,	,,	Montagu, Ornith. Dict.
,,	*erythropus,*	*Brown* ,,	,,	,, ,, ,,
,,	*ridibundus,*	*Black* ,,	,,	Bewick, Brit. Birds, vol. ii. p. 242.
,,	*cinerarius,*	*Red-legged*	,,	,, ,, ,, ,, 245.
,,	*ridibundus,*	*Black-headed*	,,	Flem. Brit. An. p. 141.
,,	,,	,, ,,	,,	Selby, Brit. Ornith. vol. ii. p. 486.
,,	,,	,, ,,	,,	Jenyns, Brit. Vert. p. 272.
Xema	,,	*Laughing*	,,	Gould, Birds of Europe, pt. xi.
Larus	,,	*Mouette rieuse,*		Temm. Man. d'Ornith. vol. ii. p. 780.

The Black-headed Gull is abundant on various parts of our coast, particularly those that are flat and marshy. In such situations it is very common, and while wearing its dark brown hood in summer is easily recognised and well-known, It frequents all parts of the coast during winter, but being decidedly a marsh breeder, assembles in great numbers early in spring, year after year, constantly, at various favourable localities for the purpose of incubation. These birds are abundant at the mouth of the Thames, both in Kent and in Essex, but the most so in the latter county, breeding by hundreds on some of the low flat islands on the coast, and in the marshes of the interior.

A breeding station in Norfolk, at a place called Scoulton Mere, where Sir Thomas Browne says this species bred constantly in his time, three hundred years ago, is thus described by the authors of the catalogue of Norfolk and Suffolk Birds. " Near the centre of the county of Norfolk, at the distance of about twenty-five miles from the sea, and two from Hingham, is a large piece of water called Scoulton Mere. In the middle of this mere there is a boggy island of seventy acres extent, covered with reeds, and on which there are some birch and willow trees. There is no river communicating between the mere and the sea. This mere has from time immemorial been a favourite breeding-spot of the Brown-headed Gull. These birds begin to make their appearance at Scoulton about the middle of February; and by the end of the first week in March the great body of them have always arrived. They spread themselves over the neighbouring country to the distance of several miles in search of food, following the plough as regularly as Rooks; and, from the great quantity of worms and grubs which they devour, they render essential service to the farmer. If the spring is mild, the Gulls begin to lay about the middle of April; but the month of May is the time at which the eggs are found in the greatest abundance. At this season a man and three boys find constant employment in collecting them, and they have sometimes gathered upwards of a thousand in a day. These eggs are sold on the spot at the rate of fourpence a score, and are regularly sent in considerable quantities to the markets at Norwich and Lynn. They are eaten cold, like Lapwings' eggs, and also used for culinary purposes; but they are rather of an inferior quality, and somewhat like ducks' eggs in flavour. The person who sells these eggs gives fifteen pounds a-year for the privilege of collecting them. This species of Gull never lays more than three eggs the first time; but, if these are taken, it will lay again. We found many of the old birds sitting in the middle of June; most of these had only one egg in the nest, but a few of them had two. Their nests are made of the tops of reeds and sedge, and are very flat at the surface. The eggs vary so much in size, shape, and colour, that a person not well acquainted with them would suppose some of them to belong to a different species of bird. Some are thickly covered with dusky spots, and others are of a light blue colour without any spots at all. The young birds leave the nest as soon as hatched, and take to the water. When they can fly well the old ones depart with them, and disperse themselves on the sea-coast, where they are found during the autumn and winter. By the middle of July they all leave Scoulton, and are not seen there again till the following spring. We were a little surprised at seeing some of these Gulls alight and sit upon some low bushy willows which grow on the island. No other than the Brown-headed Gull breeds at this mere; a few of them also breed in many of the marshes contiguous to the sea-coast of Norfolk."

Charles Anderson, Esq., sent me notice of another breeding-place in Lincolnshire, frequented annually by many hundreds of this species. This is at Twigmoor, near Brigg —an estate belonging to Sir John Nelthorpe, of Scawby. It consists chiefly of warren ground, partly covered with heather, dwarf shrubs, and birch trees. In the centre of this is a piece of water of about eighteen acres, the sides of which are green swamps, so spungy, that it is impossible to walk upon them. In these swamps the Black-headed Gulls breed in great quantities, assembling in April, laying their eggs among the rushes in May, and hatching in June. The young, till they are able to fly, creep about among the reeds, or launch out into the open water in fleets if a dog is sent into the swamp to disturb them; the old birds screaming, and almost darting in the face of any one who approaches and dwells upon the haunts of their young. There are also one or two other breeding-places on an adjoining estate at Manton. As soon as the young can fly they are seen scattered about the neighbourhood, feeding in moist meadows, but soon leave the place and return no more till the following spring.

In Northumberland, Mr. Selby says, these Gulls have for many years past enlivened the precincts of a large pond at Pallinsburn, the seat of A. Askew, Esq. from whence flocks (in consequence of the increase produced by the protection afforded during the breeding-season) have at different times detached themselves to such other situations in the neighbourhood as possessed suitable facilities for reproduction. The note of this Gull is a hoarse cackle, which, from its effect when quickly repeated, has been compared to a laugh, and has given rise to one of its specific appellations. Its flight is easy and buoyant. Its food, small fishes, insects, and worms. The Rev. Richard

Lubbock, who sent me some particulars of this species from Norfolk, mentions that he saw several of these birds in June, 1841, dashing round some lofty elms catching cockchafers. The eggs are yellowish-olive-brown, spotted with two shades of darker brown; the length two inches one line and a half, by one inch and six lines in breadth. When their nests are robbed the birds are induced to lay two or three times, and Mr. Hewitson mentions that the eggs produced at these second and third layings are sometimes one-third less than the natural size.

Mr. Thompson says this species is a constant resident in Ireland. Mr. J. Macgillivray noticed that it was abundant in summer on the marshes of some of the islands of the outer Hebrides. It was observed to be plentiful on some of the reedy lochs of Sutherlandshire; and a few breed on the boggy parts of some of the islands of Orkney and Shetland; but Dr. Fleming mentions that these birds leave Scotland in winter. This species breeds in Sweden, in Russia, and in Siberia. It is included by several naturalists among the birds of Germany. M. Temminck says it is abundant in Holland at all seasons. It is common on the French coast in winter, and a few of them breed near the lakes and rivers of the interior. It visits Switzerland in summer; is not uncommon at Genoa; is included by M. Savi in his Birds of Italy; and is common in Sicily, but only in winter. The Zoological Society have received specimens sent by Keith Abbott, Esq. from Erzeroom; and it is found both in Nepal and about Calcutta.

The adult bird in summer has the beak vermilion red; irides hazel; eyelids orange; the head, occiput, and upper part of the neck all round dark brown, the colour being most intense when first assumed, and becoming lighter by time and wear; sides and back of the neck pure white;

back, wing-coverts, secondaries, and tertials, uniform French grey; the first three quill-primaries white on the shafts and webs, but margined with black; the fourth white on the outer web, grey on the inner web, and edged with black; the fifth and sixth grey on both webs, the edge of the inner or broader web and the point black; tail-coverts and tail-feathers white; front of the neck, the breast, and all the under surface of the body and tail pure white; legs and feet like the beak, vermilion red.

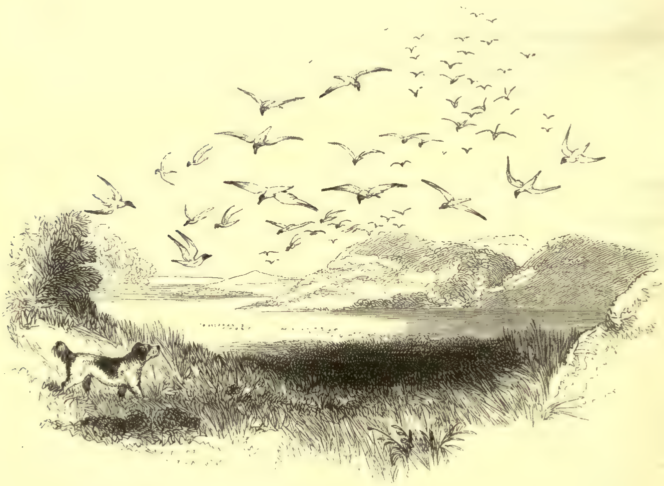
The whole length sixteen inches; from the front of the wing to the end of the first quill-feather, which is the longest, twelve inches. Bewick's figure of the Black-headed Gull represents a bird in this state of plumage; the lower figure in the illustration here given is from an adult male bird, one year old, killed at the nest in the breeding-season, but still exhibiting some slight traces of immature colours in the few brown feathers on the anterior part of the wing, and in the narrow black tips to the tail-feathers.

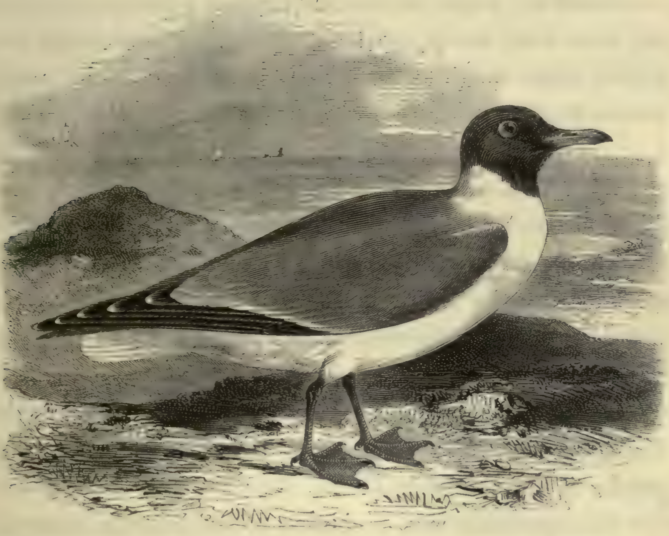
The assumption of the dark colour on the head in the spring is very rapid. A Gull in the collection at the Gardens of the Zoological Society, began, some years since, to change colour on the head, from white to dark brown, on the 11th of March; it was a change of colour, and not an act of moulting, no feather was shed, and the change was completed in five days. Another bird, some seasons afterwards, had not completed the dark colour till the beginning of May, but the time required for the change was not noted.

The upper figure in the illustration here given is from a young bird of the year killed in August; at which period the head is marked with greyish-brown, on a ground of white; the back, scapulars, smaller wing-coverts, and the tertials mottled with brown; greater coverts and secondaries French grey; primaries as in the adult bird; tail-feathers white, with a broad bar of black at the end; beak, legs, and feet, yellowish-brown.

Bewick's figure of the Red-legged Gull is from a bird in the plumage of its first winter, as indicated by the markings on the anterior part of the wing, and the narrow black bar at the end of the tail. In the truly adult bird in winter the head is but slightly marked with a dusky patch at the ear-coverts; the back and wings uniform French grey; the wing-primaries as already described; tail-coverts and tail-feathers pure white; neck, breast, and all the under surface of the body, also pure white; bill, legs, and feet red.

The vignette below was taken from a pen-and-ink sketch sent me by Charles Anderson, Esq. to illustrate the breeding-ground referred to at Twigmoor, near Brigg, Lincolnshire.





THE LAUGHING GULL.

Larus atricilla.

Larus atricilla,	*Laughing Gull,*	PENN. Brit. Zool. vol. ii. p. 193.
,, ,,	,, ,,	MONTAGU, Ornith. Dict.
,, ,,	,, ,,	FLEM. Brit. An. p. 142.
,, ,,	,, ,,	JENYNS, Brit. Vert. p. 273.
Xema ,,	*Black-winged* ,,	GOULD, Birds of Europe, pt. xxii.
Larus ,,	*Mouette à capuchon plombé,*	TEMM. Man. d'Ornith. vol. ii. p. 779. and vol. iv. p. 483.

THIS species, called the Laughing Gull by Catesby in his natural history of Carolina, was made known as a visiter to the British shores by Colonel Montagu, who, in his Ornithological Dictionary, says, "In the month of August, 1774, we saw five of them together feeding in a pool in the Shingley flats near Winchelsea; two only were black on the head, the others were mottled all over with brown. One of them was shot; but, although the remaining four continued to resort to the same place for some time, the old ones were too shy to be procured. We also saw two others near Hastings in Sussex. They may be easily known from the Black-headed Gull even when flying; the flight is different; the bird appears much larger, and the tail shorter in proportion." No other examples, taken in this country, have been recorded, that I am aware of; but Mr. Gould mentions that the preservation of Montagu's specimen in the British Museum has afforded him the means of determining that it is identical with the American bird.

The following account of the habits of this Gull in the United States, is derived from the Ornithological Biography of Mr. Audubon:—

"This species breeds, according to the latitude, from the 1st of March to the middle of June; and I have thought that on the Tortuga Keys, it produced two broods each season. In New Jersey, and farther to the eastward, the nest resembles that of the Ring-billed Gull, or Common American Gull, *Larus zonorhyncus*, being formed of dried sea-weeds, and land plants, two, and sometimes three inches high, with a regular rounded cavity, from four and a half to five inches in diameter, and an inch and a half in depth. This cavity is formed of finer grasses, placed in a pretty regular circular form. I once found a nest formed as it were of two; that is to say, two pairs had formed a nest of nearly double the ordinary size, and the two birds sat close to each other during rainy weather, but separately, each on its own three eggs. I observed that the males, as well as the females, thus concerned in this new sort of partnership, evinced as much mutual fondness as if they were brothers. On the Tortugas, where these Gulls also breed in abundance, I found their eggs deposited in slight hollows scooped in the sand. Whilst at Galveston, in Texas, I found their nests somewhat less bulky than in the Jerseys, which proved to me how much birds are guided in these matters by differences in atmospheric temperature and locality.

“ Whilst at Great Egg Harbour, in May 1829, shortly after my return from England, I found this species breeding in great numbers on the margins of a vast salt marsh, bordering the sea shore, though separated from the Atlantic by a long and narrow island. They constantly evinced a dislike to rocky shores. About sunrise every morning, an immense number of these birds would rise in the air, as if by common consent, and wing their way across the land, probably intent on reaching the lower shores of the Delaware River, or indeed farther towards the head waters of Chesapeake Bay. They formed themselves into long, straggling lines, following each other singly, at the distance of a few yards. About an hour before sunset, the same birds were seen returning in an extended front, now all silent, although in the morning their cries were incessant, and lasted till they were out of sight. On arriving at the breeding-ground, they immediately settled upon their nests. On a few occasions when it rained and blew hard, the numbers that left the nests were comparatively few, and those, as I thought, mostly males. Instead of travelling high, as they were wont to do in fair and calm weather, they skimmed closely over the land, contending with the wind with surprising pertinacity, and successfully too. At such times they were also quite silent. I now and then observed some of them whilst on wing, and at a considerable height, suddenly check their course, as if to examine some object below; but on none of these occasions did I see one attempt to alight, for it soon resumed its wonted course, and rejoined its companions.

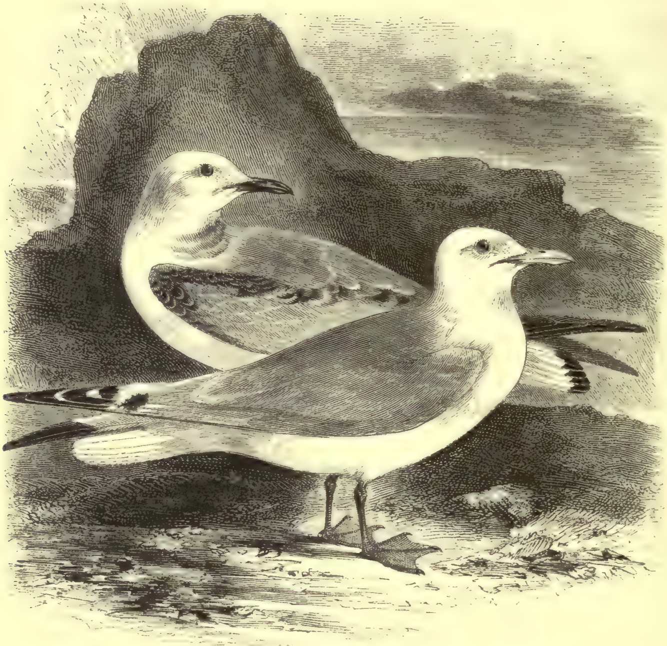
"I never found more than three eggs in a nest. Their average length is two inches and half an eighth, their greatest breadth a trifle more than an inch and a half. They vary somewhat in their general tint, but are usually of a light earthy olive, blotched and spotted with dull reddish-brown, and some black, the markings rather more abundant towards the larger end. As an article of food they are excellent. These Gulls are extremely anxious about their eggs, as well as their young, which are apt to wander away from the nest while yet quite small. They are able to fly at the end of six weeks, and soon after this are abandoned by their parents, when the old and young birds keep apart in flocks until the following spring, when, I think, the latter nearly attain the plumage of their parents, though they are still smaller, and have the terminal band on the tail."

This species has been taken on the coast of Spain, in the Straits of Gibraltar, at Genoa, on various islands of the Mediterranean Sea, at Sicily, and in the Grecian Archipelago. It feeds on insects, small fishes, and minute crustacea.

It is perhaps to this bird that Dawson Borrer, Esq. refers when dining on board H.M.S. the Howe, then lying off the Piræus, a celebrated harbour at Athens, at the mouth of the Cephisus. "I had here the opportunity of observing a curious testimony of the sagacity of the Sea-gull. The moment the bell rang for the men's dinner, though before hardly one of these birds was on view, hundreds appeared gathering around the ship; and I was assured that regularly as the bell rang, this ornithological phenomenon took place immediately; and great is the wheeling and screaming of the expectant birds when the first cargo of the remnants of the feast appear."

The bill is red; the irides very dark, almost black; head and upper part of neck all round dark lead-grey; lower part of the neck pure white; back and wings greyish-blue, the secondaries largely, and the primaries slightly tipped with white. Mr. Audubon mentions that the first primary is black, with a tinge of grey on the inner web at the base; the second and third similar, with the grey more extended; on the fourth the grey is spread over two-thirds; the fifth is black only for an inch and a half; and on the sixth the black is reduced to two spots near the end; the other parts, and the rest of the primaries, of the same colour as the back: rump, upper tail-coverts and tail-feathers white; neck in front, breast, and under surface of the body white, tinged with pale red; under tail-coverts and tail-feathers white; legs and feet red. The whole length seventeen inches; from the point of the wing to the end of the first quill-feather, which is the longest, twelve inches and three-quarters. Females are rather smaller than males, and have the head of slate-grey, rather than lead-grey. The winter-plumage of this species was first described from a bird taken at Trieste, in the winter of 1829. Forehead white, some small greyish feathers around the beak; four spots about the eye; upper part of the plumage silvery grey; small wing-coverts dusky brown, the larger coverts tipped with white; first wing-primary uniform brown; the next five also brown, but each with one white spot; from the sixth to the tenth the shafts are brown, the webs white; outer tail-feather on each side white, the others with a broad terminal band of brown; under surface of the body silvery white.

NATATORES. *LARIDÆ.*



THE KITTIWAKE GULL.

Larus tridactylus.

Larus tridactylus,	*Kittiwake Gull,*	Penn. Brit. Zool. vol. ii. p. 186.
,, ,,	*Tarrock* ,,	,, ,, ,, ,, 187 young.
,, *rissa,*	*Kittiwake* ,,	Montagu, Ornith. Dict.
,, *tridactylus,*	,, ,,	Bewick, Brit. Birds, vol. ii. p. 238.
,, ,,	,, ,,	,, ,, ,, ,, p. 240 young.
,, *rissa,*	,, ,,	Flem. Brit. An. p. 141.
,, ,,	,, ,,	Selby, Brit. Ornith. vol. ii. p. 493.
,, *tridactylus,*	,, ,,	Jenyns, Brit. Vert. p. 274.
,, *rissa,*	,, ,,	Gould, Birds of Europe, pt. xiv.
,, *trydactylus,*	*Mouette tridactyle,*	Temm. Man. d'Ornith. vol. ii. p. 774.

The early describers of this species seem not to have been aware that the Gull named the Tarrock, *Larus tri-*

dactylus, was only the young state of that which had been previously called the Kittiwake, *Larus rissa ;* but this is a point satisfactorily ascertained now. The figure in our illustration with the dark coloured markings on the neck and wings, is taken from a young bird of the year; the other figure is from an adult bird killed at the Isle of Wight, early in the month of June.

Colonel Montagu was certainly mistaken in considering the Kittiwake a rare bird on our southern coast. This Gull is decidedly a rock-breeder, and very common in the breeding-season on all the rocky parts of the coast of Hampshire, Dorsetshire, Devonshire, and part of Cornwall. I have seen many in one day, in the first week in June, between the Needle Rocks and Freshwater Gate in the Isle of Wight. Mr. Thompson mentions that it is only a summer-visiter to Ireland, and it is known to migrate in autumn from the coasts of Durham, Northumberland, Scotland, from the Scotch Islands, and from all the numerous places still further north, to which it resorts for the breeding-season; but Dr. Edward Moore mentions having killed the young bird in Devonshire in November. I am confident that I have seen this species in winter in Dorsetshire and Hampshire; and M. Vieillot says it is stationary on the coast of France. That many go far south in winter the localities to be hereafter quoted will prove.

The young bird, while bearing on its plumage the dark-coloured markings, has been called the Tarrock; the adult bird is the Kittiwake, and the name has reference to the cry of this Gull, which, when disturbed at its breeding-station, utters three notes in quick succession, which closely resemble in sound the word in question. A writer in the Field Naturalists' Magazine, in his Notes from the Isle of

Wight, volume ii. page 74, mentions a very curious fact in reference to a Gull. He says, "In the next parish to this there is a Gull, either the *Larus hybernus*, or *L. rissa*, which was brought up there about twenty-seven years ago. There is a small piece of water which it used to frequent, but for many years it has nearly forsaken this, and spends its time, either sitting upon the rails of one or two cottages to which it confines its visits, or flying at liberty around the country. Every spring, when the breeding season arrives, it leaves the parish, which is inland, and pairing with one of the wild birds, inhabits the white cliffs on the coast,* whence it returns again alone when the breeding-season is over. It is so tame at other times with those whom it knows, that it will come into their cottages and eat out of their hands, but will not allow itself to be approached thus closely by strangers."

The Kittiwake breeds high up on rocky cliffs, and is found by the egg-collectors to select very narrow ledges. The nests are formed of sea-weeds and are generally placed very close together. Three eggs is the most usual number in each nest: these are two inches two lines and a half in length, by one inch and seven lines in breadth; of a stone-colour, tinged with olive, thickly spotted with ash-grey, and two shades of light brown. The principal food of the Kittiwake is the small surface-swimming fry of fishes, and other soft marine animals.

Besides breeding on many of the high ranges of cliffs along the southern line of our shores, this bird breeds also on many of the high rocky promontories on the eastern coast, such as Flamborough Head, the lofty cliffs of Scarborough, some of the Farn Islands, St. Abb's Head, the Bass Rock, and some parts of the coast of Aberdeen, as well as Orkney and Shetland, but from these districts the birds move southwards by the end of summer or the beginning of autumn. Professor Nilsson says it breeds on many parts of the rocky coast of Scandinavia. Faber includes it among the birds of Iceland; and Mr. Proctor observed that it was plentiful. It is known to visit the Faroe Islands, Nova Zembla, Spitzbergen, and Greenland. Captain James C. Ross says "it inhabits all parts of the Arctic Regions, and has been met with in the highest latitudes yet attained by man. It is extremely numerous during the summer season along the west coast of Prince Regent's Inlet; where, in several places that are peculiarly well fitted for breeding-stations, they congregate in inconceivable numbers. We killed enough to supply our party with several excellent meals, and found them delicious food, perfectly free from any unpleasant flavour." Dr. Richardson found this bird common in various parts of North America, and Mr. Audubon says it is plentiful on the shores of the United States.

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* The circumstance of this bird visiting the cliffs of the Isle of Wight to breed, induces me to believe that it was a Kittiwake, which species breed there every year in great numbers. Our Common Gull, to which Gmelin applied the term *Larus hybernus*, breeds on low flat islands or marshes whenever it has the power of choosing, and of such ground there is plenty on the Lymington and Hurst Castle side of the Southampton Water.

This species is found at Genoa in winter. Dr. Heineken included it in his catalogue of the Birds of Madeira; the Zoological Society have received specimens from Tripoli; M. Savi includes it in his Ornithology of Italy, and the Russian naturalists found it in the vicinity of the Caspian Sea.

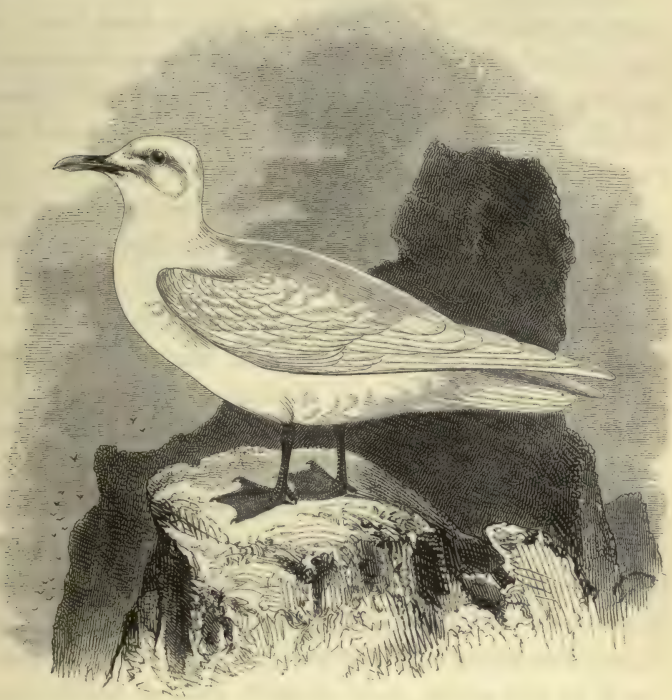
The adult bird in summer at the breeding-station has the bill greenish-yellow, the mouth inside orange; the irides dusky brown; the head and the neck all round pure white; back and wings French grey, the secondaries and tertials tipped or edged with white ; the outer margin of the first primary quill-feather black, the next three tipped with black, the fifth with a black patch near the end, but the extremity white ; tail-coverts and tail-feathers pure white ; chin, throat, breast, and all the under surface of the body and tail pure white ; legs rather short, and dusky in colour, the toes and interdigital membranes also ; the hind toe only a small tubercle without any projecting horny nail or claw, and on this account the species was called *tridactylus*, three-toed.

The whole length fifteen inches and a half ; from the anterior joint of the wing to the end of the longest quill-feather twelve inches.

The adult bird in winter has the lower part of the neck behind French grey, like the back ; the occiput, top of the head and the region of the ear-coverts streaked with dusky grey, the other parts as in summer.

Young birds of the year have the bill black ; the irides dusky, almost black ; upper part of the head white ; the occiput and nape with a few dusky grey patches on a white ground ; the lower part of the neck behind marked by numerous blackish-grey feathers ; back, scapulars, great wing-coverts and secondaries French grey ; point of the wing, and the series of smaller wing-coverts nearly black ; tertials French grey, with a spot of black near the end, the inner broad web varied with white ; tail-coverts and tail-feathers white, the latter black at the end ; the middle tail-feathers having the largest portion of black, the outer tail-feather on each side the smallest ; chin, neck, breast, and all the under surface of the body pure white ; under tail-coverts white, tail-feathers white at the base, ending in dark or lead-grey ; legs, toes, and membranes pale brown.

NATATORES. *LARIDÆ.*



THE IVORY GULL.

Larus eburneus.

Larus	*eburneus,*	*Ivory Gull,*	BEWICK, Brit. Birds, vol. ii. p. 234.
,,	*candidus,*	*The Snow-bird,*	FLEM. Brit. An. p. 142.
,,	*eburneus,*	*Ivory Gull,*	SELBY, Brit. Ornith. vol. ii. p. 497.
,,	,,	,, ,,	JENYNS, Brit. Vert. p. 276.
,,	,,	,, ,,	GOULD, Birds of Europe, pt. xiii.
,,	,,	*Mouette blanche,*	TEMM. Man. d'Ornith. vol. ii. p. 769.

THE first example of this Ivory-white Gull obtained in the British Islands, occurred in Balta Sound, Shetland, in the winter of 1822, and the circumstance is recorded in the fourth volume of the Memoirs of the Wernerian

Society by Lawrence Edmonston, Esq., who presented the specimen to the Edinburgh Museum. Another example is noticed by Mr. Selby as having been killed in the Frith of Clyde. The late Joseph Sabine, Esq., early in the year 1834, sent notice to Captain James C. Ross, that this beautiful Gull had then but recently visited the western shores of Ireland.

Two recent occurrences of this species have been recorded: one in Durham, by John Hogg, Esq., the other on the Yorkshire coast.

M. Temminck mentions in his Manual having himself killed a bird of this species, which was entirely white, in spring, on the coast of Holland. M. Vieillot says it has appeared on the coast of France, though very rarely, and one specimen was killed in winter, some years since, near Lausanne, which has been recorded by M. Necker, and also by Dr. Schinz. Professor Nilsson says, this rare Gull appears occasionally in winter both in Sweden and in the northern parts of Scandinavia. The Ivory Gull is best known in high northern latitudes, and has been found in summer at Nova Zembla and at Spitzbergen. In reference to some of the habits of this species, Captain W. Scoresby, in his account of the Arctic Regions, says, that this Gull, "though so delicate in its appearance, is almost as ravenous as the Fulmar Petrel, and as little nice in its food. It is, however, more cautious. It is a constant attendant on the flenzing operations of the whale-fishers, where it generally seizes its portion on the wing. It rarely alights in the water, but often sits on the ice, preferring the most elevated situations. Its voice is a loud and disagreeable scream."

Captain Sabine and Captain James C. Ross, represent this species as being common on the coast of Greenland, in Davis's Straits, Baffin's Bay, Port Bowen, and Hecla Cove. Dr. Richardson mentions it as observed breeding in great numbers on the high perforated cliffs which form the extremity of Cape Parry, in latitude 70°. Mr. Audubon, in his North-American Ornithology, says it is found in winter on the southern coast of Labrador and Newfoundland. This Gull feeds on the flesh of whales, and almost any other decomposing animal matter. The egg is unknown to me.

The adult bird in summer has the bill greenish-grey at the base and about the nostrils, the anterior portion yellow; the irides brown, eyelids red at the edge ; the whole of the plumage, including the wing and the tail-feathers, a pure and delicate white ; the legs short and black.

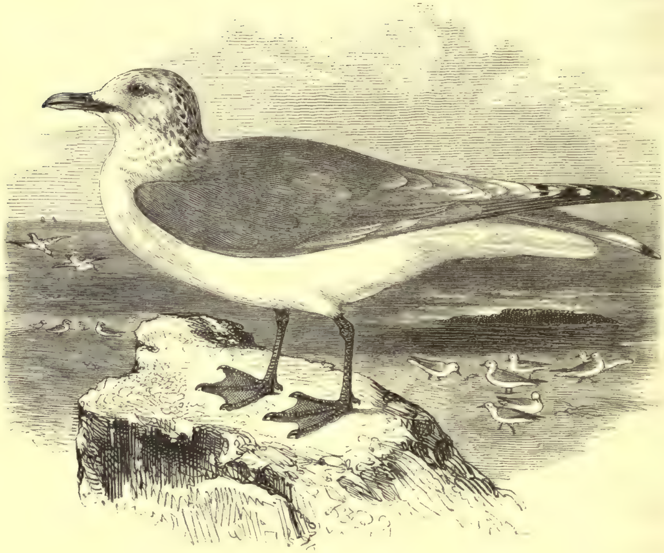
M. Temminck, in the fourth part of his Manual, says, that, when alive, the whole plumage of this bird exhibits a rosy tint, which passes off soon after death.

The adult birds in winter are said to have a few greyish streaks or lines about the head.

Captain Sabine describes a specimen killed during the first week in June, at Greenland, apparently a bird of the preceding year, as having a few light brown feathers about the bill, extending towards the eyes ; a very small transverse band of brown spots across the primary wing-coverts, thickest at the point of the wing ; the primary quill and the tail-feathers slightly tipped with brown. A bird still younger than the last had the ends of the primary quill-feathers, and of the tail-feathers, tipped with brown.

The whole length from sixteen to eighteen inches, depending on age and sex ; from the same cause the wing, from the most anterior joint to the end of the longest quill-feather, varies from twelve and a half to thirteen inches.

NATATORES. *LARIDÆ.*



THE COMMON GULL.

Larus canus.

Larus canus,	*The Common Gull,*	Penn. Brit. Zool. vol. ii. p. 184.
„ „	*Winter Mew,*	„ „ „ „ p. 185.*
„ „	*Common Gull,*	Montagu, Ornith. Dict.
„ „	*Winter* „	„ „ „ *
„ „	*Common* „	Bewick, Brit. Birds, vol. ii. p. 236.
„ „	„ „	Flem. Brit. An. p. 140.
„ „	„ „	Selby, Brit. Ornith. vol. ii. p. 490.
„ „	„ „	Jenyns, Brit. Vert. p. 275.
„ „	„ „	Gould, Birds of Europe, pt. xxi.
„ „	*Mouette à pieds bleus,*	Temm. Man. d'Ornith. vol. ii. p. 771.

The Common Gull, as its name would imply, is pretty generally diffused around the coast, though more plentiful in some situations than in others, and varies a little in its habits, depending on the locality in which it is found.

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* *Larus hyberneus,* of Gmelin, and La Mouette d'hiver, of Buffon.

Both in Kent and Essex, where those counties bound the estuary of the Thames, this Gull is to be seen throughout the year on the sandy flats and bars, picking up as food any refuse animal matter the tide may bring; occasionally taking its flight to survey the line of the slack and shallow water near the shore, hovering in its search to be certain of its object, and picking up from the surface of the water small fishes, or other floating substance, to satisfy its appetite. This bird frequently, also, goes some miles inland to follow a plough in search of insects and grubs. Here also, as well as on other parts of the coast which are flat, the Common Gull breeds in marshes, or on flat islands, while in other districts, to be hereafter named, it breeds on high rocks. They frequently follow the course of a river for many miles up from the sea; Mr. Jesse notices one that was shot in winter on the Mole, near Hampton Court. The Common Gull, in confinement, will feed on pieces of bread; some kept by Colonel Montagu would pick up grain when not supplied with fish or worms, and one bird of this species, kept by John Hunter, was brought by degrees to live entirely on corn. The stomach of this bird was examined after death, and the muscular parietes were found to be thickened. The preparation is preserved in the Museum of the Royal College of Surgeons. A female in the possession of Dr. Thackeray, the Provost of King's College, Cambridge, has for several seasons following, laid one or more eggs; two duck's eggs were placed in her nest in the summer of 1844, upon which she sat steadily, and both were productive. One of the young Ducks died at the hatching-time, the other she reared and attended constantly.

The Common Gull in a wild state makes rather a large nest, whether on marsh or rock, of sea-weeds and grass, and lays two or three eggs of a dark olive-brown, spotted with darker brown and black; the length two inches and a quarter, by one inch and a half in breadth.

Mr. Thompson says the Common Gull remains all the year in Ireland; it is found also all round the south and east coast, from Wales to Sussex, and from thence to Norfolk and Lincolnshire. At St. Abb's Head, a bold and rocky headland of Berwickshire, these birds, Mr. Selby says, are very numerous during the breeding-season, and occupy the whole face of the cliff. In Sutherlandshire, the same species, Mr. Selby observes, has several breeding-stations; viz. upon Loch Shin, Loch Laighal, and various smaller lochs. Mr. J. Macgillivray noticed the Common Gull on several islets of the Outer Hebrides; there it was found occasionally breeding in the interior. In Orkney and Shetland, Mr. Dunn says, I have found a few pairs incubating in company with the Herring Gull, and occasionally a solitary pair breeding in the cliffs without any associates; they may be found sometimes on the small islands in the lakes.

Professor Nilsson considers this bird one of the Common Gulls in Sweden; it was seen in Norway by Mr. Hewitson, who states that two thousand eggs were gathered for the use of the inhabitants from one island only. Linnæus, in his tour in Lapland, mentions having seen hundreds of this Gull in the corn-fields of Westbothland, and one also on the Lapland Alps. It is found at the Faroe Islands; and Mr. Proctor observed that it was plentiful at Iceland. It is included in a list of birds found by Naturalists at Nova Zembla, and was observed by Dr. Richardson in Arctic America.

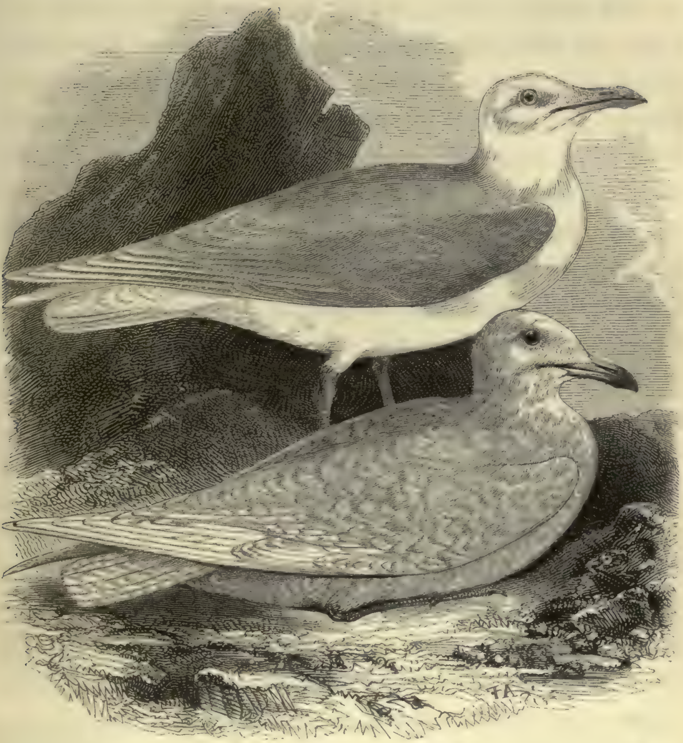
This species is common on the shores of Holland and France; it is found in Spain, at Genoa, and in Italy.

The Zoological Society have received specimens sent by Keith Abbott, Esq. from Trebizond, and the Russian naturalists found it in the vicinity of the Caspian Sea.

In the adult bird in summer the bill is greenish-grey at the base, towards the point yellow; irides dark brown, edges of the eye-lids red; the whole head and neck pure white; the back and all the wing-coverts pearl-grey, secondaries and tertials the same, but broadly edged and tipped with white; primaries black on the outer web, with a small portion of pearl-grey at the base of the inner web, the proportion of grey increasing on each primary in succession, the first and second primary with a patch of white on both webs near the end, but the extreme tips of both are black, the third, fourth, fifth and sixth, have white tips, but the first set of primary quill-feathers which the young bird carries for the first fifteen months, have no white at the tips. Few birds moult their first set of quill-feathers in their first autumn. Tail-coverts and tail-feathers pure white; chin, neck in front, breast, and all the under surface of the body and tail pure white; legs and feet dark greenish-ash. The whole length of an old male eighteen inches and a half; of the wing from the point fourteen inches and a half. The length of an old female about one inch less, and of the wing half an inch less.

In the winter the whole head and the sides of the neck are streaked and spotted with dusky brown and ash-brown.

A young bird in its first autumn has the basal portion of the bill yellowish-brown, the part anterior to the nostrils nearly black; irides dusky; head, sides of the neck, the ear-coverts and occiput dull white, mottled with greyish-brown; the back, wing-coverts, secondaries and tertials brownish-ash, the feathers edged with paler brown; a few bluish-grey feathers on the centre and sides of the back; the primaries nearly black, both as to the shafts and greater part of the webs, all but the first being tipped with brown; upper tail-coverts dull white; tail-feathers white, the outer half black, except the outer feather on each side, which has the outer web white; chin and throat white; neck in front, the breast, and all the under surface of the body, mottled with light ash-brown, on a ground of white; legs and feet pale yellowish-brown, the claws black.



THE ICELAND GULL,

OR LESSER WHITE-WINGED GULL.

Larus Icelandicus.

Larus Icelandicus,	*Iceland Gull,*	Flem. Brit. An. p. 139.
„ „	„ „	Selby, Brit. Ornith. vol. ii. p. 501.
„ „	„ „	Jenyns, Brit. Vert. p. 279.
„ *leucopterus,*	„ „	Eyton, Rare Brit. Birds, p. 59.
„ *Icelandicus,*	„ „	Gould, Birds of Europe, pt. xx.
„ *glaucoides,*	*Mouette leucoptere,*	Temm. Man. d'Ornith. vol. iv. p. 468.
„ *leucopterus,*	„ „	„ „ „ p. 467.

This White-winged Gull, originally described by Faber in his Prodromus of the Ornithology of Iceland, under the name of *Larus leucopterus*, has occasionally been taken in this country, and was at first confounded with the Glaucous Gull, another rare species, having also white wings, and only differing from it in being considerably larger. It happens too that the various names which have been proposed for it, not excepting that of *leucopterus*, White-winged, given by Faber himself, are not wholly free from objection, since both these Gulls are glaucous in reference to colour, both are inhabitants of Iceland, and both have the principal wing-feathers white. The Iceland Gull bears the same proportion in size to the Glaucous Gull, that the Lesser Black-backed Gull does to the Great Black-backed Gull, and I have therefore added an English name referring to size by which they may be distinguished. Dr. Richardson's notice of this species in the Fauna Boreali-Americana may be quoted in aid of this view. "*Larus leucopterus*. Faber. During Captain Ross's and Sir Edward Parry's first voyages, many specimens of this Gull were obtained in Davis's Straits, Baffin's Bay, and at Melville Island. M. Temminck, to whom they were communicated, considered it at first to be merely an Arctic variety of *Larus argentatus*, the Herring Gull; and, in deference to his authority, it was described as such by Captain Sabine. Both he and other Ornithologists have, however, since that time, published it as a distinct species under different appellations, the one which we have selected having the priority. The plumage of *L. leucopterus* differs little from that of *L. glaucus*; but the great superiority of the latter bird in size is sufficient to distinguish the species." Captain James C. Ross says of this species, in his last Appendix, "it was found breeding on the face of the same precipice with the Glaucous, but at a much less height, and in greater numbers. It is not unfrequently met with at the Shetland Islands in the winter season, and may therefore be added to our catalogue of British Birds." Mr. Audubon says it is not rare in winter from Nova Scotia to New York. I have not found any description or figure of the egg.

Professor Nilsson includes this species in his Fauna of Scandinavia, and it is found at the Faroe Islands.

The substance of Faber's remarks on this species may be thus given:—In size between *Larus canus*, the Common Gull, and *Larus argentatus*, the Herring Gull. This is the only Gull that passes the winter in Iceland without breeding there in summer. It must, like *Larus eburneus*, the Ivory Gull, breed in the higher northern regions, and come to Iceland in winter as a bird of passage. I have travelled over most of the coast of the island, but have never found its breeding-place. There was no *L. leucopterus* on the rocks of Faxe or Bredebugt towards the west, where *L. glaucus* breeds in large colonies. A few days after the middle of September, the first specimens, both old and young, make their appearance on the coast of Iceland, confining themselves to the northern parts, among the small inlets of which great numbers pass the winter. When I lived on the innermost of the small fiords on the northern coast, these birds were our daily guests. Towards the end of April their numbers decreased, and by the end of May they had nearly all disappeared from Iceland. These tame birds came on land by my winter dwelling on the northern coast, to snap up the entrails thrown away by the inhabitants, and fought fiercely for them with the Raven. I had made one so tame that it came every morning at a certain time to my door to obtain food, and then flew away again. It gave me notice of its arrival by its cry. This Gull indicated to the seal-shooters in the fiord where they should look for the seals, by continually following their track in the sea, and hovering in flocks, and with incessant cries over them; and whilst the seals hunted the sprat and the capeling towards the surface of the water, these Gulls precipitated themselves down upon the fish and snapped them up. In like manner they follow the track of the cod-fish in the sea, to feed upon the booty hunted up by this fish of prey. In the winter of 1820-21, which I passed at Drebatte, on the southern coast, there was not a single *L. leucopterus* to be seen; on the 1st of March, 1821, the shore was almost free of sea-gulls; but as I stepped out of my room early on the 2nd of March, the air was almost filled with a species of *Larus* which had appeared suddenly. As I approached and looked up at them, I soon recognised my *L. leucopterus*, which had arrived in great numbers during the night. The Icelanders concluded, from the sudden appearance of these Gulls, that shoals of codfish must have arrived on the coast. They got ready their boats and nets, and the fish had in truth arrived in such numbers that the fishing for that season commenced immediately. Here, where hitherto an ornithological quiet had reigned, everything now became enlivened through the arrival of these birds, which, without intermission, and with incessant cries, hovered over the nets. If I wished to shoot this Gull I observed the time when the fishing-boats landed, and this tame bird followed the boats to shore in order to feed on the parts which were thrown away by the fishermen. I heard afterwards that this particular species of Gull had been very scarce during that winter on the northern coast; the Greenland ice had filled up all the inlets there, and the birds were thus driven to the southern shore, where I had again the opportunity of observing them. In this year, 1821, they remained on the southern coast till the middle of May, when they entirely left it to proceed northward to their breeding-places. This Gull was my weather guide in winter. If it swam near the shore, and there, as if anxious, moved along with its feathers puffed out, then I knew that on the following day storms and snow were to be expected. In fine weather it soared high in the air. They often sit by hundreds on a piece of ice, and in that way are drifted many miles. Its manners differ from those of the Glaucous Gull, which has the habits of the Great Black-backed Gull, and moves with more energy. The nature of the White-winged Gull more resembles that of the Herring Gull; its deportment and flight are more graceful; it hovers over its prey, is somewhat greedy, always active, and is not afraid to fight with equal, or superior antagonists for its food. My manuscript was finished before I knew that this Gull had been mentioned by any author. Accidentally I had lent to me Sabine's Memoir of the Birds of Greenland, and found therein, under the incorrect name of *Larus argentatus*, mention of a Gull which bore a great resemblance to my *Larus leucopterus*. Perhaps this bird when it leaves this island in May goes to Hudson's Bay in order to breed.

Besides three or more examples of this bird obtained in Shetland by Lawrence Edmonston Esq., to whom we are indebted for the first notice of this species as a winter visiter to Britain, Professor Macgillivray has noticed one specimen taken in Orkney, and now in the Edinburgh Museum. This species has also been taken twice in Ireland; and Mr. Wm. Thompson has recorded in the Magazine of Natural History, vol. xi. p. 18, a notice of the habits of this species as observed on the south-west coast of Scotland, which, as coinciding with the remarks of Faber in Iceland, are interesting. The notice is as follows:—"At the end of last year, 1836, three Gulls, of the same kind, made their appearance on the shore where the fishermen reside. Two of them were shot in the spring, and one sent you, in June. As they frequented the fishing-boats, the men used to supply them with fish; and in a short time they became quite familiar; took whatever was thrown to them, but would not allow themselves to be caught. They were never observed to go far from the place where they were first seen. The person who gave me this information, shot the two in the spring; and says, that every winter one or more are seen on the coast. He cannot say where they breed, but is sure there are none on the Craig at Ailsa." Mr. Thompson remarks that the month of June seems a late period for the Iceland Gull to remain in such a comparatively southern latitude; and there can hardly be a doubt that it is the same species which is seen about Ballantrae, in Ayreshire, every winter, as the authority for the statement must evidently know it well from its congeners, when he correctly states that it breeds not on Ailsa Craig.

Mr. Selby mentions having obtained three or four specimens on the coast of Northumberland, all immature birds. An adult specimen has been taken in Yorkshire, and another is in the collection of John Malcolm, Esq. A young bird was obtained in the winter of 1838, in the London Market, by Mr. Bartlett. This specimen is now in the collection of D. W. Mitchell, Esq., of Penzance, who very kindly allowed me the use of the bird for the figure and description here given.

Since the publication of the previous edition of this work, an adult bird has been taken in Lincolnshire, and a young one in Devonshire.

The Iceland Gull sometimes makes its appearance in winter at the mouth of the Elbe; it has also been taken in Holland and in Belgium; the latter circumstance I learn by the publication of a most useful and interesting volume on the vertebrate animals of Belgium, written by M. Edmund de Selys-Longchamps, of Liege, and which has very recently been received in this country.

In the adult Lesser White-winged Gull the bill is small and yellow, the angle of the under mandible red; the irides straw yellow; head and neck all round pure white; back, wings, and all the wing-coverts very pale ash-grey; primary quill-feathers wholly white; upper tail-coverts and tail-feathers white; chin, throat, breast, and all the under surface of the body and tail pure white; legs flesh-coloured.

The whole length twenty-two inches; the pointed ends of the wings, when closed, reach two inches beyond the tail.

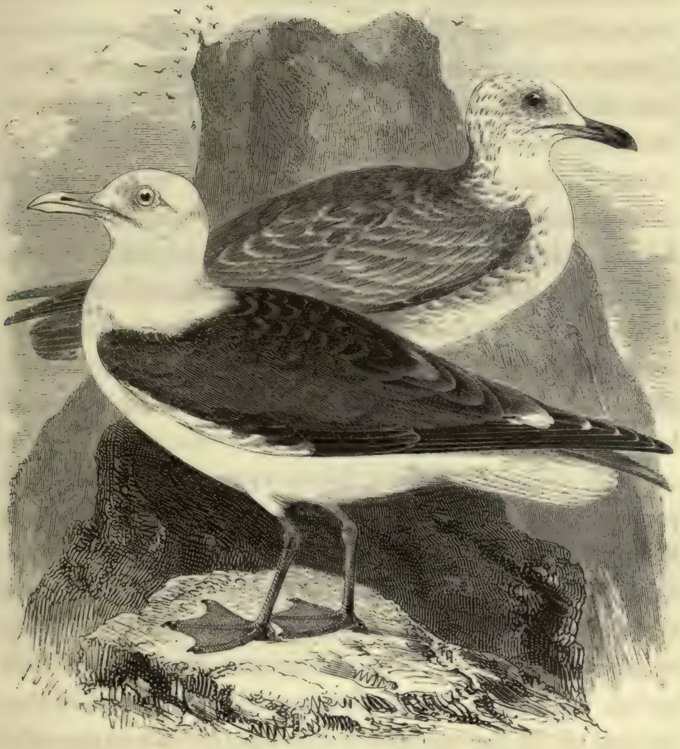
From September to the beginning of April, while in their winter-plumage, Faber says, they have grey spots on their head and neck.

Mr. Mitchell's young bird has the bill pale yellow at the base, the anterior half horny black; the irides dark brown; head and neck dull white, clouded with pale ash-brown; the back the same colour; secondaries, tertials, and all the wing-coverts dull white, marked transversely with pale brown angular streaks; primaries white; tail-coverts and tail-feathers greyish white, the latter marked across with broadish lines of pale brown, which are more numerous about the base than towards the end; chin dull white;

neck, breast, belly, and all the under surface of the body, dull white, streaked transversely with pale brown; legs yellowish-brown.

The whole length of this specimen eighteen inches. From the carpal joint to the end of the longest quill-feather fifteen inches and a half; the ends of the wings reaching two inches beyond the tail.

Faber mentions, that the yôung bird before becoming matured in colour measures twenty inches and three-quarters in length; that the spots on the plumage are lost by degrees, and in the fourth summer they have the same colour as the old birds.



THE LESSER BLACK-BACKED GULL.

Larus fuscus.

Larus——— *Lesser Black-backed Gull,*	PENN. Brit. Zool. vol. ii. p. 178.
„ *argentatus,* „ „ „ „	MONTAGU, Ornith. Dict.
„ *fuscus,* „ „ „ „	BEWICK, Brit. Birds, vol. ii. p. 227,
„ „ *Yellow-legged* „	FLEM. Brit. An. p. 140.
„ „ *Lesser Black-backed* „	SELBY, Brit. Ornith. vol. ii. p. 509.
„ „ „ „ „ „	JENYNS, Brit. Vert. p. 277.
„ „ „ „ „ „	GOULD, Birds of Europe, pt. xiv.
„ „ *Goeland à pieds jaunes,*	TEMM. Man. d'Ornith. vol. ii. p. 767.

THE LESSER BLACK-BACKED GULL was first noticed as a British bird breeding at Anglesey, by Pennant, though he had doubts whether it differed specifically from the Great Black-backed Gull, notwithstanding it was so much smaller in size. The names are here given on the line referring to Pennant's work, to obtain uniformity in appearance. Montagu afterwards supplied the true distinguishing characters, but included a name and synonyms which belong to two other species. The Great Black-backed Gull is on our south-eastern coast a much more rare species than the Lesser Black-backed Gull, and is in these same districts decidedly a marsh breeder; while the Lesser Black-backed Gull here as constantly resorts to the rocks and cliffs, associating and breeding in company with the Herring Gull, both being found almost always inhabiting the same localities.

Small surface-swimming fishes, upon which these birds precipitate themselves from the air, and animal substances floating, or brought to shore by the tide, form their most usual food, but both old and young are seen occasionally to go inland from the coast, to search moist pastures, or recently ploughed fields, for worms, insects, and their grubs. A bird of this species, kept in confinement, is thus spoken of by the owner. "He has the full range of a large garden, his escape being only prevented by having his wing cut; but he constantly prefers the neighbourhood of a large network cage, the residence of a pair of silver pheasants; not very congenial companions, one would suppose, for a roamer of the ocean. But such is the fondness of almost all animated beings for society of some kind or other, that, when that of their own species is out of reach, they will often attach themselves to creatures of a very different character. Near his gallinaceous friends our Gull always sleeps, seldom straying to any considerable distance; though he seems to enjoy, at times, using his wings to the utmost of his ability; half flying, half running, in all directions, apparently for mere amusement. He is, however, very tame, and will, when hungry, follow any of the family about the garden uttering a peculiar cry, which always means that he is quite ready for a meal. Indeed, he has a most voracious appetite, and the capacity of his throat is truly astonishing; he has repeatedly swallowed, quite whole, with beak, claws and feathers, various small birds which had been shot and thrown to him. Mice, or other small quadrupeds, appear equally to suit his taste; and, though he has no objection to butcher's meat, he seems rather to prefer small animals, notwithstanding the hair, feathers, &c., which sometimes give him not a little trouble to dispose of satisfactorily. The way in which he remedies this difficulty suggested itself the first time a bird was given him; I believe it was a skylark. After some ineffectual efforts to swallow it, he paused for a moment; and then as if suddenly recollecting himself, he ran off full speed to a pan of water, shook the bird about in it until well soaked, and immediately gulped it down without further trouble. Since that time, he invariably has recourse to the same expedient in similar cases."

The Lesser Black-backed Gull is a constant resident in Ireland and Wales, on the coasts of Cornwall, Devon, Dorset, Hampshire, Sussex, Suffolk, and Norfolk. On the Northumberland coast, Mr. Hewitson observes, that these birds "appear to prefer those islands which are the most rocky, and upon which there is the least herbage, and though they have their choice, very few of them deposit their eggs upon the grass, and yet they rarely lay them without making a tolerably thick nest for their reception; it is of grass, loosely bundled together in large pieces, and placed in some slight depression or hollow of the rock.

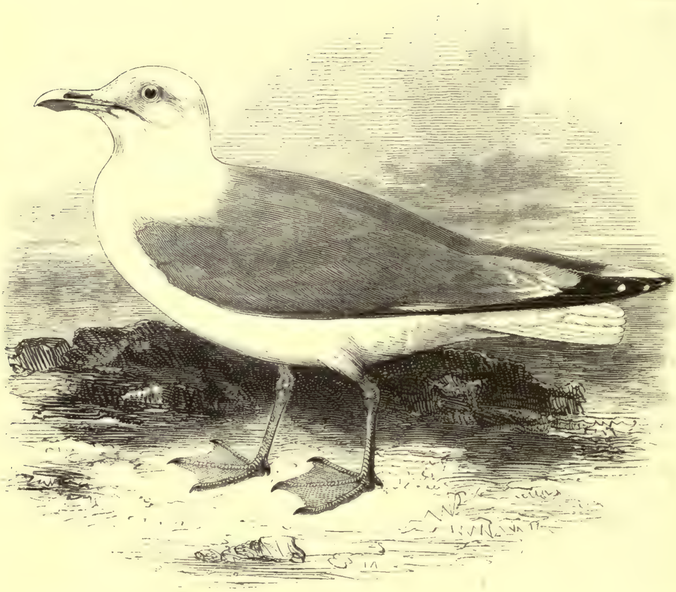
Amongst upwards of one hundred nests that I examined, one or two only had small pieces of sea-weed mixed with the other materials. They lay two or three eggs, varying in their shades of colour from a dark olive-brown to a light drab, thickly spotted with ash-grey, and two shades of brown; the length of the egg about two inches ten lines, by one inch and eleven lines in breadth. After they have begun to sit, they become very bold in the defence of their eggs; whilst among them, I was amused with one, near the nest of which I was sitting; it retired to a certain distance, to give it full force in its attack, and then made a stoop at my head, coming within two or three yards of me, this it continued to do, incessantly, till I left it. Mr. Darling, the keeper of the light-house on the island, informs me, that an old woman who was in the habit of gathering their eggs, had her bonnet almost torn to pieces, it being perforated throughout by their bills." Mr. Selby observes "that the young, upon exclusion, are covered with a parti-coloured down of grey and brown; but this is rapidly hidden by the growth of the regular feathers, and in a month or five weeks they are able to take wing." The young birds of former seasons, while yet immature in plumage and incapable of breeding from want of sufficient age, are not permitted by the adult and breeding birds to inhabit the breeding-stations during their breeding-season, but are driven away to other localities. Mr. Selby mentions having found the eggs and young of this species upon an island in Loch Awe, and in Sutherlandshire many colonies were observed, one upon Loch Shin, and another upon one of the islands of Loch Laighal. It breeds also at the Hebrides, in Orkney, and in Shetland. Professor Nilsson says it is common about the Baltic and on the coast of Norway. It is found in Holland, France, and Belgium;

the Zoological Society have received it from Oporto. It inhabits the isles of the Adriatic. M. Savi includes it in his Birds of Italy. It is found also in Barbary, Syria, Egypt, and the Red Sea. The Zoological Society have received this species also from Trebizond. M. Temminck says, that specimens of this bird from the Cape of Good Hope are larger, while those from the eastern countries named are smaller, than the average size of the birds obtained here at home.

The adult bird in summer has the bill yellow, the inferior angle on the lower mandible red; irides straw yellow; head, and the whole of the neck all round pure white; back, wing-coverts, and all the wing-feathers dark slate-grey, the tips only of some of the longer scapulars and tertials being white, and white tips to the shorter of the primaries; upper tail-coverts and tail-feathers white; breast, belly, and all the under surface of the body and tail pure white; legs and feet yellow. The whole length twenty-three inches; from the anterior joint of the wing to the end of the longest quill-feather sixteen inches. In winter the head and neck are streaked with dusky brown.

A young male at one year old has the base of the bill pale brown, the rest horny black; irides dark brown; head, sides and back of the neck white, streaked longitudinally with dusky brown; back, and all the wing-coverts and the tertials ash-brown, the feathers margined with white, but the shaft of each feather deep brown; primaries and secondaries blackish-brown, without any white at the tips.; upper tail-coverts white, tail-feathers blackish-brown, varied with some white; the central feathers having the most dark colour, the outside ones the most white; chin, neck, breast, belly, flanks, and under tail-coverts white, mottled with dusky brown; legs and feet light brown.

NATATORES. *LARIDÆ.*



THE HERRING GULL.

Larus argentatus.

Larus fuscus,	*Herring Gull,*	Penn. Brit. Zool. vol. ii. p. 181.
,, ,,	,, ,,	Montagu, Ornith. Dict.
,, *argentatus,*	,, ,,	Bewick, Brit. Birds, vol. ii. p. 229.
,, ,,	,, ,,	Flem. Brit. An. p. 140.
,, ,,	,, ,,	Selby, Brit. Ornith. vol. ii. p. 504.
,, ,,	,, ,,	Jenyns, Brit. Vert. p. 276.
,, ,,	,, ,,	Gould, Birds of Europe, pt. ii.
,,	*Goeland à manteau bleu,*	Temm. Man. d'Ornith. vol. ii. p. 764.

Colonel Montagu, misled by others, misquoted and misplaced the systematic names of the Lesser Black-backed Gull and the Herring Gull, the latter being the true *Larus argentatus*. On the southern parts of our coast this is a common species, remaining all the year, and breeding in the season at most of the localities frequented by the Lesser Black-backed Gull. The Herring Gull is particularly numerous at the Isle of Wight, from Freshwater Gate, to that group of isolated rocks, some of which, from their conical and pointed forms, are called the Needles; and these birds are also found at many places where the cliffs are high along the line of coast extending to the westward. These Gulls make a nest of grass on the ledges and other flat portions of the cliff near the top, where they lay three eggs, which closely resemble those of the Lesser Black-backed Gull. They are of a light olive-brown, spotted with two shades of dark brown, and measure two inches and a half in length, by one inch and three-quarters in breadth.

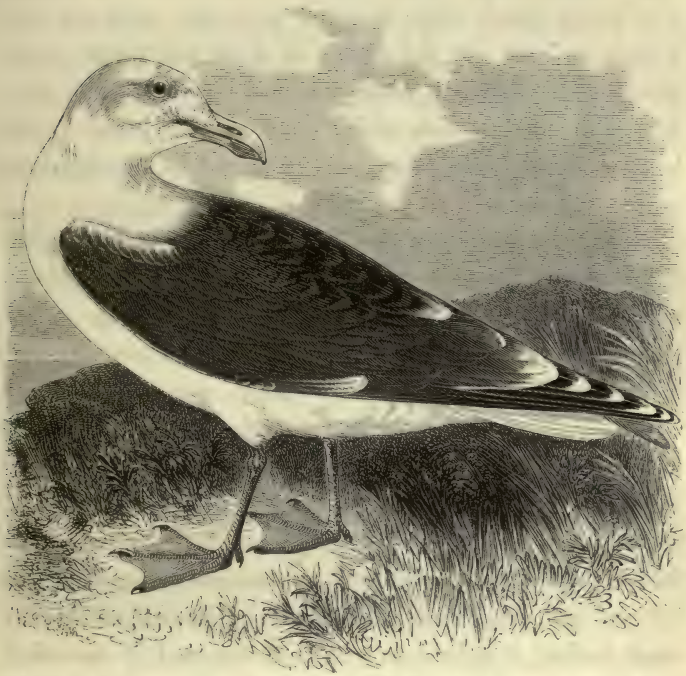
This Gull, from its partiality to fish, distinguished by the name of Herring Gull, feeds upon surface-swimming fish, mollusca, and radiata. This species is particularly bold in approaching the boats and nets of the fishermen; and in Italy has acquired the name of *Pescatore.*

A pair of this species bred in captivity at Quy Hall, the residence of J. T. Martin, Esq.; two eggs were laid, and one young bird was reared.

The Herring Gull is common, and resident, on many of the rocky parts of the coast of Ireland; it is found along the line of the coast of Wales, in Cornwall, Devonshire, Dorsetshire, and Hampshire. On the eastern coast it is observed in Suffolk and Norfolk; but Mr. Selby mentions that it is far less numerous on the Northumbrian coast than the Lesser Black-backed Gull. Mr. J. Macgillivray says, the Herring Gull is abundant on some of the islands of the Outer Hebrides, never breeding in the interior like the Common Gull, but always on the coast. Mr. Hewitson notices the fine cliff of Sumburgh Head, the southern termination of Shetland, as a place where the Herring Gull breeds abundantly. Mr. Dunn says, this species is very numerous both in Orkney and Shetland. It is found in Scandinavia, at the Faroe Islands, in Iceland, and by our Arctic voyagers in Greenland and Melville Island. Mr. Audubon mentions it as plentiful in North America.

This species is observed all the year on the coasts of Holland and France; both old and young are also observed at Genoa in winter. Dr. Heineken includes it in his catalogue of the Birds of Madeira; and M. Savi in his Birds of Italy. It is found at Corfu, at Crete, Sicily and Malta; and Mr. Drummond mentions that it is common, and breeds at Biserta. Mr. G. H. Strickland mentions, that Herring Gulls frequent the Golden Horn at Constantinople; it is found in Asia Minor, and on the southern shores of the Black Sea.

The adult bird in summer has the bill yellow, the angle of the under mandible red; edges of the eyelids orange, the irides straw yellow; head and neck all round pure white; the back, and all the wing-coverts uniform delicate French Grey; tertials tipped with white; primaries mostly black, but grey on the basal portion of the inner web; the first primary with a triangular patch of white at the end, the second and third with smaller portions of white; upper tail-coverts and tail-feathers pure white; chin, throat, breast, belly, and all the under surface of the body and tail pure white; legs and feet flesh-colour. The whole length from twenty-two inches to twenty-four and a half, depending upon age and sex; the wing from sixteen inches and a half to seventeen and a quarter. In winter the adult birds have the head streaked with dusky grey. Young birds resemble the young of the Lesser Black-backed Gull, but the legs and feet are more livid in colour.



THE GREAT BLACK-BACKED GULL.

Larus marinus.

Larus marinus,	*Great Black-backed Gull,*	Penn. Brit. Zool. vol. ii. p. 172.
” ”	” ” ” ”	Montagu, Ornith. Dict.
” ”	” ” ” ”	Bewick, Brit. Birds, vol. ii. p. 223.
” *nævius,*	*The Wagel*	” ” ” 225, young.
” *marinus,*	*Black-backed Gull,*	Flem. Brit. An. p. 140.
”	*Great* ” ” ”	Selby, Brit. Ornith. vol. ii. p. 507.
” ”	” ” ” ”	Jenyns, Brit. Vert. p. 278.
” ”	” ” ” ”	Gould, Birds of Europe, pt. xiii.
” ”	*Goeland à manteau noir,*	Temm. Man. d'Ornith. vol. ii. p. 760.

The Great Black-backed Gull, though seen throughout the year on various parts of our coast, is not numerous as a species, and is most frequently observed to be solitary, or in pairs only. Dr. Turner, who wrote on British ornithology nearly three hundred years ago, calls this Gull a Cob, and on the flat shores of Kent and Essex, at the mouth of the Thames, where this bird remains all the year, it is still called a Cob, which term, as mentioned in the history of our Mute Swan, vol. iii. page 224, has reference to its large size.

About the estuary of the Thames, in the counties mentioned above, the Great Black-backed Gull is decidedly a marsh breeder, both male and female assisting in the formation of their grassy nest, and driving all other birds, friends or foes, from the vicinity of the chosen spot. The female lays three eggs of large size, measuring three inches two lines in length, by two inches and four lines in breadth; the general colour yellowish-brown, tinged with green, sparingly spotted with slate-grey and dark brown. The food of this species is fish, and any animal matter; it will kill and eat small birds, and has been known to destroy weak lambs; it is bold as well as strong, and, if wounded, will make a resolute defence against capture. Its flight is powerful, and sustained without much apparent effort; it is also frequently seen swimming buoyantly on the water, supported by the mass of feathers with which the body is invested.

The Great Black-backed Gull, according to Mr. Thompson, is a resident species in Ireland; it is found in Wales, being observed by Montagu in considerable abundance on the extensive sandy flats of the coast of Caermarthenshire; breeds on the steep holmes, and Lundy Island in the Bristol Channel, and has been shot in winter as high up the Severn as Worcester. It is found in Cornwall and in

Devonshire. The Rev. Robert Holdsworth sent me word that, from an egg of this species, taken off the Bolt Headland by some of the crew of the Vigilant, excise-cutter, and kept in a blanket by day, and near the fire-place at night for about ten days, a young gull was hatched and reared by the crew; and for many years lived quite tame in the possession of a smith at Dartmouth. It swam in the river every day, and looked out for the fishermen returning from sea, who used to throw small fish to it. Both banks of the Thames towards the mouth are inhabited by this species, and the bird from which the figure here inserted was taken, given me by my friend Mr. Broderip, was shot at Putney during the frost which occurred early in February, 1841. It is found in Suffolk and Norfolk. Mr. Selby says it is occasionally killed on the coasts of Durham and Northumberland; breeds on the Bass Rock in the Frith of Forth, and a few were seen on the friths of Sutherlandshire.

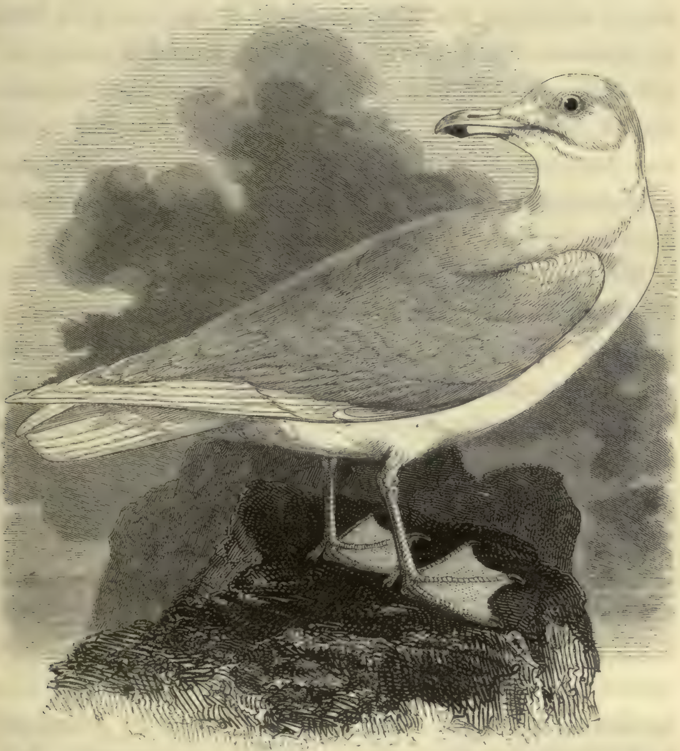
Mr. Hewitson mentions, "that this species breeds in abundance on a few of the islands of Orkney and Shetland. The birds select with care either a place surrounded by the waters of some inland lake, where no boat has ever been, or one that is difficult of access by climbing. Their eggs are rich and excellent to eat; and they are, in consequence, a most valuable acquisition to the owners of the islands upon which they are deposited. The custom is to take the whole of the eggs as soon as laid, and the second set in like manner, allowing the birds to sit the third time. One gentleman, Mr. Scott, upon whose property they breed, and by whom we were most hospitably received, told us that he had secured sixty dozen of their eggs for winter use, although the extent of the island was scarcely half an acre."

Professor Nilsson says this species is found on most of the shores and islands of Sweden and Norway; it is also found at Iceland. A single specimen was seen by our Arctic voyagers in Baffin's Bay, and the species was included by Fabricius in his Birds of Greenland. According to Mr. Audubon the Great Black-backed Gull inhabits North America.

This species is observed on the coasts of Germany, Holland, and France; it is included by M. Savi, in his Birds of Italy, and it was found by the Russian naturalists in the vicinity of the Caspian Sea.

The adult bird in summer has the bill pale yellow, the inferior angle of the under mandible reddish-orange, the whole bill very large and strong; the irides straw yellow, the edges of the eyelids orange; head and neck pure white; back, wing-coverts, scapularies, secondaries, and tertials lead grey, the feathers of the three latter series ending in white; primaries nearly black, the first and second quill-feathers with a triangular white patch, forming the end of each feather, the second quill-feather having a black spot in the white; all the others tipped with white, the inner broad webs being lead-grey; upper tail-coverts and tail-feathers pure white; chin, throat, breast, belly, and all the under surface of the body and tail pure white; legs and feet flesh-colour. In winter the crown of the head and the occiput are slightly streaked with ash-grey. The whole length of an adult male is thirty inches, and sometimes rather more; the wing, from the carpal joint to the end of the longest quill-feather twenty inches. The female measures twenty-seven inches, and her wing nineteen inches.

The young birds in their stages to maturity resemble the young of the Lesser Black-backed Gull, but are always much larger, and their legs are paler in colour.



THE GLAUCOUS GULL,

OR LARGE WHITE-WINGED GULL.

Larus glaucus.

Larus glaucus,	*Glaucous Gull,*	Bewick, Brit. Birds, vol. ii. p. 231.
,, ,,	*Young* ,, ,,	,, ,, ,, ,, 233.
,, ,,	*The Burgomaster,*	Flem. Brit. An. p. 139.
,, ,,	*Glaucous Gull,*	Selby, Brit. Ornith. vol. ii. p. 498.
,, ,,	,, ,,	Jenyns, Brit. Vert. p. 279.
,, ,,	,, ,,	Gould, Birds of Europe, pt. xvii.
,, ,,	*Goeland Burgermeister,*	Temm. Man. d'Ornith. vol. ii. p. 757.

This large species, equal in size to the Great Black-backed Gull last described, was first made known as a winter visiter to the most northern of the Shetland Isles, by Lawrence Edmondston, Esq., who obtained young and old birds of both the species of White-winged Gulls included in this work. This Glaucous Gull was first named and described by Brunnich, in his ORNITHOLOGIA BOREALIS, published in 1764; the bird also inhabits Iceland, and is included by Faber in his Ornithology of that island.

Mr. Edmondston thus describes the habits of this Gull as observed by himself. "This species is never known to breed in Shetland. It arrives in that country about the middle of autumn, and leaves it towards the end of spring; and this migration appears to be completely general, at least I do not remember having seen one during the whole summer season. In this respect it totally differs from all the species of known Gull, to which, on a superficial view, it might be supposed to approximate. Its favourite resorts are the entrances of the more exposed bays; or the ocean, a few miles off the land, where it is often found assiduously attending the fishing-boats, to pick up any offals that may be thrown overboard; and it is often taken by a line and hook baited with fish, when engaged in this pursuit. It is greedy and voracious to a proverb; and, when allured by carrion, which seems to be its favourite food, becomes comparatively indifferent to danger. It then quits the ocean and the headlands, enters the bays, and boldly ventures inland. Generally speaking it is rare; and I have hardly above once seen more than three or four individuals at one time. Occasionally a single bird may be met with, attending a large flock of its congeners, and feeding along with them. Upon these occasions its peculiarity of appearance is very striking. Its usual deportment is grave and silent, exhibiting little of the characteristic vivacity or inquisitiveness of many of its tribe, and it is roused to exertion chiefly by a sense of danger, or the cravings of hunger. When it flies, it extends its wings more, and its flight is also more buoyant than that of the other species of Gull; and, when not in quest of food, it is of a reserved disposition, seldom coming within the range of a fowling-piece, but soars at a respectful distance, uttering, at intervals, a hoarse scream, of a sound quite peculiar to itself. It exhibits none of that remarkable instinct so predominant in many of the larger species of the genus, which prompts them frequently, at the hazard of their own lives, to warn other animals of the vicinity of the sportsman; but when once alarmed, it commonly flies off. In the month of November, 1820, I observed a flock of upwards of a hundred of this species in the Bay of Balta Sound, in Shetland. They remained there for two or three weeks, going out to sea, in search of food, regularly, at a particular period of the tide, and returning to rest for some time in the Bay. During this time I had ample opportunity of observing their appearance and habits, and of completely confirming all the views I had previously entertained concerning them. It is in Unst, the most northerly island of the group, that I have found it most frequently, and where it is chiefly known. It is there that I have observed it first to arrive, and this most generally occurred when the wind was favourable from the Arctic Regions."

Mr. Thompson says *Larus glaucus* is of occasional occurrence on every quarter of the coast of Ireland. The fine specimen from which our illustration was taken was shot by Francis Edwards, Esq., of Bristol, in the winter of 1840, on the Severn. Specimens have been obtained in Cornwall and Devonshire. Mr. Bullock, in his London

Collection, exhibited various specimens, some of which were sent to him by Mr. L. Edmondston; one was killed on Loch Lomond, and one on the coast of Northumberland, where Mr. Selby observes other examples, old and young, have occurred. Mr. Bartlett obtained an immature specimen in the London market in the winter of 1838; this bird is now in my own collection, and will be found described at the end of this subject. The Rev. Leonard Jenyns sent me notice of one obtained in Cambridgeshire, In the notes of Mr. Wm. Borrer, jun., I find a record of three examples, all young birds, obtained at Thornham in Norfolk, in the winter of 1836; and I have heard from two or three other friends of specimens killed at Yarmouth, and at Scarborough. On the other side of the Channel this species visits the coasts of Germany and Holland. M. Edmund de Selys Longchamps, in his Belgian Fauna, mentions that both old and young specimens have been taken at Dunkirk. M. Vieillot includes this species in his Birds of France, and, in the winter of 1817, a single bird strayed as far south as Genoa.

Mr. Edmondston mentions having seen this species on the shores of the Baltic, and Professor Nilsson includes it in his Ornithology of Sweden, and of Scandinavia. It is said to be common in Russia, and was found by naturalists as far north as Nova Zembla.

Captain W. Scoresby, in his account of the Arctic Regions, says of this Gull, " Larus imperiosus might perhaps be a more characteristic name for this lordly bird, and would correspond pretty nearly with the name, Burgomaster, or Burgermeister, as generally given to it by the Dutch. It may with propriety be called the chief magistrate of the feathered tribe in the Spitzbergen regions, as none of its class dare dispute its authority, when, with unhesitating superiority, it descends on its prey, though in the possession of another. The Burgomaster is not a numerous species, and yet it is a general attendant on the whale-fishers whenever any spoils are to be obtained. It then hovers over the scene of action, and, having marked out its morsel, descends upon it and carries it off on the wing. On its descent, the most dainty pieces must be relinquished, though in the grasp of the Fulmar Petrel, the Ivory Gull, or the Kittiwake. It seldom alights in the water. When it rests on the ice, it selects a hummock, and fixes itself on the highest pinnacle. Sometimes it condescends to take a more humble situation when it affords any advantage in procuring food. It is a rapacious animal, and, when without other food, falls upon the smaller species of birds and eats them. I have found the bones of a small bird in its stomach, and have observed it in pursuit of the Little Auk. Its eggs I have found on the beach of Spitzbergen, deposited in the same way as those of the Tern, namely, on the shingle, above high-water mark, where the full power of the sun falls."

The remarks of Faber in reference to this species at Iceland, are, in substance, as follows:—This bird remains here all the year, keeping the open sea in winter, and breeding in summer on the rocks of the southern and western parts in company with *Larus marinus*, which it resembles in some of its habits, in its nest and its eggs. It attacks small birds, and robs their nests for food. It feeds also on *Cancer pulex* and *araneus;* extracts the soft animals from the shells of *Venus islandica*, *Pecten islandicus*, and searches closely for the Lump-sucking fish, *Cyclopterus lumpus,* which it appears to delight in finding.

The Glaucous Gull was found by our Arctic voyagers to be numerous in Davis' Straits, Baffin's Bay, Greenland, and the Polar Seas; occupying with their nests the pinnacles of rocks and the projecting ledges of cliffs on the sea shore. The egg is of a stone colour, spotted with ash-grey and two shades of reddish brown, and measures two inches nine lines in length, by one inch and eleven lines in breadth. One of these Gulls disgorged a Little Auk when it was struck by the shot, and proved on dissection to have a second in its stomach. Captain James C. Ross mentions, that this species was found at Felix Harbour, and along the line of the western shore of Prince Regent's Inlet; and Mr. Audubon includes it in his Ornithology of the United States and North America.

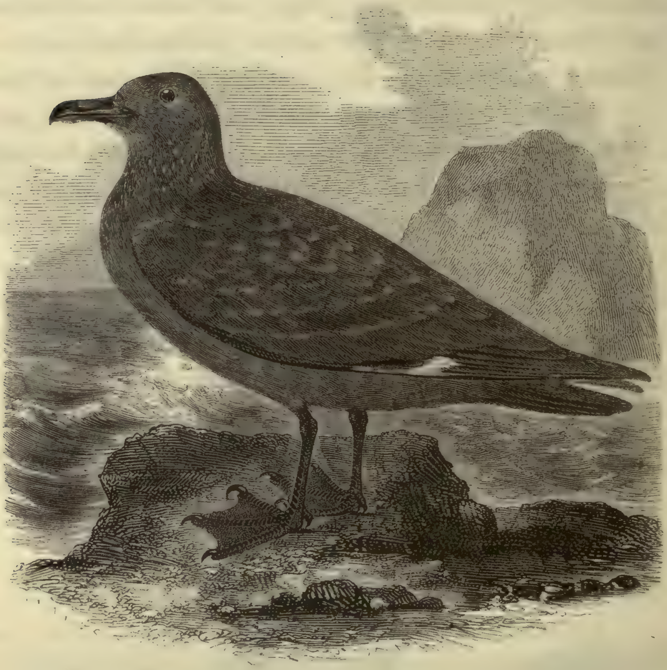
The adult bird has the bill yellowish-white, the inferior angle of the lower mandible reddish-orange; irides straw yellow; all the plumage nearly white, but with a tinge of skimmed-milk blue over the back and wing-coverts; primaries white, reaching but little, if any, beyond the end of the tail; legs and feet flesh-colour.

Old males have been taken measuring, from the point of the beak to the end of the tail-feathers, thirty two and even thirty-three inches; the wing from the carpal joint to the end of the longest quill-feather nineteen inches. In winter the head and neck are slightly streaked with ash-grey.

The bird killed by Mr. Edwards on the Severn, and which that gentlemen very kindly sent up for my use in this work, measured in its whole length twenty-seven inches and a half; the wing seventeen inches and three-quarters.

The young Glaucous Gull obtained in the London market has the bill pale brown at the base, the point dark horn colour; the irides dark; head, neck, back, and wing-coverts, a mixture of pale ash-brown and dull white;

scapulars and tertials transversely barred with pale brown, and tipped with greyish white ; primaries and secondaries uniform pale yellowish grey ; upper and under tail coverts dull white, barred with pale brown ; tail-feathers uniform yellowish-brown ; wings only reaching to the end of the tail ; chin, throat, and breast dull white, mottled with pale brown, belly more uniform in colour, and greyish-brown ; legs and feet livid-brown. The bird in general appearance is very similar to the young of the Lesser White-winged Gull, figured at page 575, and described at page 581, but much larger : the whole length twenty-six inches and a half, and the wing, from the anterior joint to the end, seventeen inches and a half.



THE COMMON SKUA.

Lestris cataractes.

Larus cataractes,	*Skua Gull,*	PENN. Brit. Zool. vol. ii. p. 174.
,, ,,	,, ,,	MONTAGU, Ornith. Dict.
,, ,,	,, ,,	BEWICK, Brit. Birds, vol. ii. p. 247.
Cataractes vulgaris,	*Common Skua,*	FLEM. Brit. An. p. 137.
,, ,,	,, ,,	SELBY, Brit. Ornith. vol. ii. p. 514.
Lestris cataractes,	,, ,,	JENYNS, Brit. Vert. p. 280.
,, *catarractes,*	*The* ,,	GOULD, Birds of Europe, pt. iii.
,, ,,	*Stercoraire cataracte,*	TEMM. Man. d'Ornith. vol. ii. p. 792.

LESTRIS. *Generic Characters.*—Bill strong, hard, cylindrical, formed for cutting; compressed, curved, and hooked at the point; base of the upper mandible covered with a cere. Nostrils situated towards the point of the beak, diagonal, narrow, closed behind, pervious. Legs strong, naked above the tarsi, which are rather long ; three toes in front, palmated ; the hind toe small ; claws large, strong, very much curved. Tail slightly rounded, the two middle feathers generally elongated, sometimes considerably. Wings moderate, the first quill-feather the longest.

The various species of the genus *Lestris* have long been separated by naturalists from the true Gulls, from a just appreciation of the differences in their external characters, and also in their habits. The Skuas may be considered as forming a conspicuous portion of the predaceous division among the swimming birds, as indicated by their powerful and hooked beak and claws. Their food is fish, but they devour also the smaller water birds and their eggs, the flesh of whales, as well as other carrion, and are observed to tear their prey to pieces, while holding it under their crooked talons.

Many of the true Gulls are listless and timid ; the Common Skua and its generic companions are, on the contrary, courageous and daring, harassing the smaller Gulls perpetually. They rarely take the trouble to fish for themselves, but, watching the Gulls while thus employed, they no sooner observe one to have been successful than they immediately give chase, pursuing it with fury ; and obliging it from fright to disgorge the recently-swallowed fish, they descend after it to catch it, and are frequently so rapid and certain in their movements and aim as to seize their prize before it reaches the water. It is on this account these birds have been called Parasitic Gulls, because they are supported by the labours of others. John Barrow, Esq., in the description of his voyage to Iceland, mentions the amusement afforded to the party in the yacht, when watching the Brown Gulls chasing the White Gulls.

The various species of Lestris are inhabitants of the most Northern regions, rarely going farther south in Europe, even in winter, than the line of our southern shore.

The Common Skua, however, has a much wider range, and, besides inhabiting Nova Zembla, Spitzbergen, and Iceland, has been found in the southern Hemisphere, in the Straits of Magellan, and at the Falkland Isles, where in a fine harbour on the north-west coast these birds long since obtained the name of Port Egmont Hens.

The Skua is included by M. Nilsson in his Birds of Scandinavia; and it is known to inhabit the Faroe Islands. Its breeding-stations with us are probably confined to Shetland. Mr. Dunn mentions three, namely, "Foula, Rona's Hill, and the Isle of Unst. In the latter place it is by no means numerous, and is strictly preserved by the landlords on whose property it may have settled, from a supposition that it will defend their flocks from the attacks of the Eagle. That it will attack the Eagle if he approaches their nests, is a fact I have witnessed; I once saw a pair completely beat off a large Eagle from their breeding-place on Rona's Hill. The flight of the Common Skua is more rapid and stronger than that of any other Gull. It is a great favourite with the fishermen, frequently accompanying their boats to the fishing-ground, which they consider a lucky omen, and in return for its attendance they give it the refuse of the fish which are caught. The Common Skua does not associate in groups, and it is seldom that more than a pair are seen together." The female lays two and sometimes three eggs, which are olive brown, blotched with darker brown; the length two inches nine lines, and two inches in breadth.

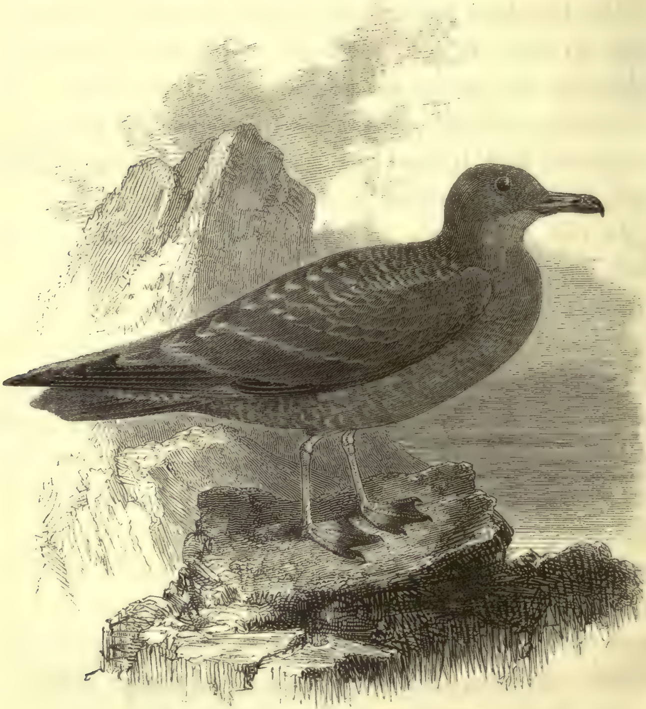
From the north these birds in autumn come down the line of our eastern shore, and specimens have been obtained on the coast of Northumberland, Durham, Norfolk, Essex, Kent, and Sussex. Several were exhibited for sale in the London market during the winter of 1837. On the other side of the British Channel specimens have been obtained on the coasts of Germany, Holland, and France.

Mr. Heysham has noticed one on the coast of Cumberland, an adult female, which allowed herself to be seized while she was in the act of killing a Herring Gull. Mr. Thompson includes the Common Skua among the visiters to Ireland, and it has been shot on the Severn, in Cornwall, and in Devonshire.

In this species the bill and its cere are black; irides dark brown; the whole of the head and neck dark umber-brown, slightly varied by streaks of reddish-brown; back, wings, and tail dark brown; scapulars and tertials margined with pale reddish-brown; wing-primaries blackish-brown, rusty brownish-white at the base; the two middle tail-feathers a little longer, and rather darker in colour than the others; chin, throat, neck in front, breast, and all the under surface of the body uniform clove-brown; legs, toes, and their membranes black; the tarsi scutellated in front, reticulated behind; the inner claw the strongest and the most curved. The whole length twenty-four to twenty-five inches; the wing from the anterior bend sixteen inches.

The female is rather smaller than the male, but otherwise the sexes do not differ much in appearance; nor does this species assume by age the lighter colours peculiar to the other species of this genus. G. T. Fox, Esq., says of one example which had been kept alive ten years, that the plumage had undergone no change of colour at any of the annual moultings. A specimen brought to Dr. Neill in the summer of 1820, then a nestling, was alive at the Cannon-mills in October 1843, then in his 24th year, but Dr. Neill sent me word at that time, that he feared his old Skua would not survive the winter. The plumage had become very pale, and the head especially greyish white.

NATATORES. *LARIDÆ.*



THE POMERINE SKUA.

Lestris pomarinus.

Cataractes	*pomarinus,*	*Pomerine*	*Skua,*	Selby, Brit. Ornith. vol. ii. p. 517.
Lestris	,,	,,	,,	Jenyns, Brit. Vert. p. 281.
,,	*striatus,*	,,	,,	Eyton, Rare Brit. Birds, p. 53, adult.
,,	*pomarinus,*	,,	*Gull,*	Gould, Birds of Europe, pt. ii.
,,	,,	*Stercoraire pomarin,*		Temm. Man. d'Ornith. vol. ii. p. 793.

The first notice of this species I am acquainted with, upon which it is entitled to a place among our British Birds, is in the sale Catalogue of Mr. Bullock's Collection, April, 1819, where, at page 32, lot 61, is "an undescribed Gull, much allied to the Arctic, but greatly superior in size, killed at Brighton; and lot 62, a second example of the same species, killed at Dover; and a third is referred to as having been killed near Liverpool, and then in the collection of Lord Stanley." This species was afterwards characterised by M. Temminck, in the second edition of his Manual, published in October, 1820. Since that period many more examples, most, if not all of them, young birds, have been obtained; but this species has not been known to breed, like the Common Skua, even in Shetland, and can therefore be considered only as a winter-visiter. It appears to come down the lines of our eastern and western coasts in autumn, some remaining all the winter on our southern coast.

Mr. Thompson mentions that several examples have been taken on different parts of the east coast of Ireland. In 1831, James Cornish, Esq. presented two living specimens to the Zoological Society, which had been captured in Devonshire. An example of this species was shot, some years since, in Hackney Marshes, near London. Early in the winter of 1837, many were received in the London market for sale, and among them were eight or ten birds which had been caught alive. Mr. Mummery, of Margate, sends me word that the Pomerine Skua has been obtained on the coast of Kent. A specimen killed in Cambridgeshire is now in the collection of Dr. Thackeray, of King's College. This species has also been taken on the coasts of Suffolk and Norfolk; and Rudston Read, Esq. has obtained several specimens off Scarborough. The Pomerine Skua also visits the shores of Germany, Holland, and France; and, according to Dr. Schinz, one or two, which are found to be young birds of the year, make their appearance almost every winter on some of the lakes of Switzerland.

In its habits it resembles the Common Skua, and the other species of the genus, preferring a life of plunder to one of independent industry, and hence the generic title, the term *Lestris* signifying a robber.

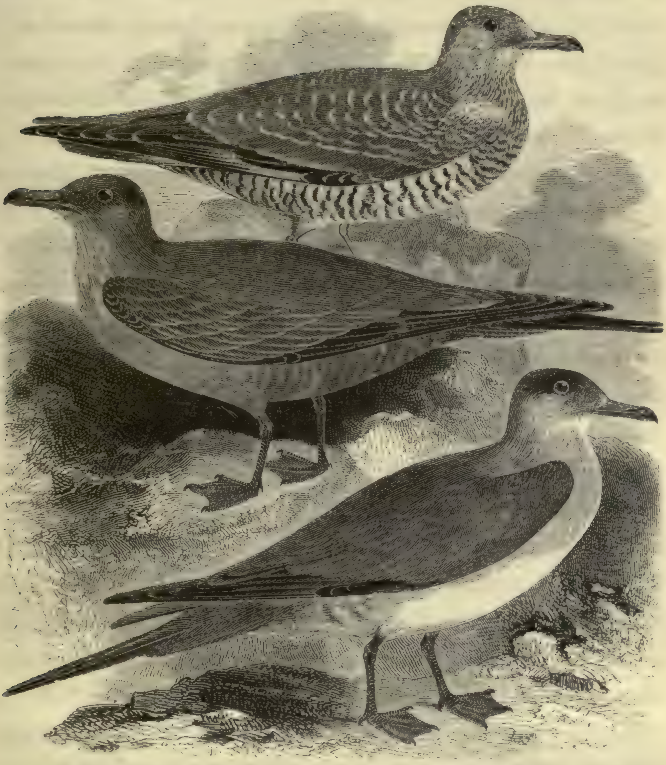
Less, however, is known of the summer-habits of this species than of that bird which precedes it, or that which is to follow. It is found on the west coast of Norway, and at the Faroe Islands. By our intrepid Arctic voyagers it was observed on the coast of Greenland, and at Whale-fish Island. During the dangerous passage to the northward, over ice and water, by Sir Edward Parry and Captain James C. Ross, one bird of this species flew past the boats in latitude 82°. N. The Pomerine Skua was also seen at Prince Regent's Inlet, Melville Island, and at Igloolik. Captain James C. Ross mentions, in his last Appendix, that a nest with two eggs was found near Fury Point, on the margin of a small lake. Dr. Richardson says "the Pomarine Gull-hunter is not uncommon in the Arctic seas, and northern outlets of Hudson's Bay, where it subsists on putrid flesh and other animal substances thrown up by the sea, and also on the matters which the Gulls disgorge when pursued by it. It retires from the north in the winter, and makes its first appearance at Hudson's Bay in May, coming in from seaward. The Indians abhor it, considering it to be a companion of the Esquimaux, and to partake of their evil qualities," Mr. Audubon mentions having seen a few birds of this species while on an ornithological cruise off the coast of Labrador. The bird is said to form a rude nest of grass and moss, which is placed on a tuft in marshes, or on a rock, and to lay two or three eggs; these, as figured by Naumann and Buhle, are of a uniform pale green, the larger end blotched and spotted with two shades of reddish-brown; the length two inches three lines, by one inch six lines and a half in breadth.

In the young bird, from which our figure is taken, the cere and base of the bill are greenish-brown, the curved point black; the irides very dark brown; feathers of the head and neck clove-brown, with narrow margins of wood-brown; back, scapulars, tertials, and upper tail-coverts umber-brown, each feather margined with wood-brown, these margins being broadest on the tertials, the lower part of the back, and the upper tail-coverts; great wing-coverts nearly uniform umber-brown; wing-primaries blackish-brown, the shafts of these feathers, and a considerable portion of the inner webs white; tail-feathers umber-brown, the two middle tail-feathers in this young bird not more than half an inch longer than the next feather on each side; chin, throat, breast, belly, and vent mottled with buff-coloured brown, produced by narrow alternate transverse lines of clove-brown, and wood-brown; under tail-coverts broadly barred across with umber-brown and wood-brown; legs and base of the toes yellow, anterior part of the toes and their intervening membranes black.

The whole length of this bird to the end of the tail-feathers next the central pair, twenty inches; wing from the anterior bend fourteen inches and a quarter. The comparative measurements in an adult bird would be twenty-one inches, and fifteen inches. I have seen a specimen of the Pomarine Skua in the collection of Mr. Bond, which was obtained alive when a young bird in the varied plumage of its first year which assumed the uniform chocolate brown plumage during its second year; some specimens barred across the breast have been named *Lestris striatus*, as noticed by Mr. Eyton; and I have seen two fine old birds, dove-grey on the back, with the head black, the neck all round and the breast yellowish-white, with the central tail-feathers elongated, showing that the Pomarine Skua is subject to all the changes of plumage which have been so frequently observed in the more common species next to be described, and of which three representations are given as illustrations.

The name of Skua is considered to have been adopted from the note of the bird, which sounds like *skui.*

NATATORES. *LARIDÆ.*



RICHARDSON'S SKUA.

Lestris Richardsonii.

Larus parasiticus,	*Arctic Gull,*	Penn. Brit. Zool. vol. ii. p. 179, adult.
„ *crepidatus,*	*Black-toed* „	„ „ „ „ 178, young.
„ *parasiticus,*	*Arctic* „	Montagu, Ornith. Dict, adult.
„ *crepidatus,*	*Black-toed* „	„ „ „ young.
„ *parasiticus,*	*Arctic* „	Bewick, Brit. Birds, vol. ii. p. 250, adult.
„ *crepidatus,*	*Black-toed* „	„ „ „ 252, young.
Cataractes parasiticus,	*Arctic Skua,*	Flem. Brit. An. p. 138.
„ „	„ „	Selby, Brit. Ornith. vol. ii. p. 520.
Lestris Richardsonii,	*Richardson's* „	Jenyns, Brit. Vert. p. 282.
„ „	„ *Lestris,*	Gould, Birds of Europe, pt. iv.
„ „	*Stercoraire Richardson,*	Temm. Man. d'Ornith. vol. iv. p. 499.

Three distinct species of the genus *Lestris* have been frequently brought together under the name of the Arctic Gull, the *Larus parasiticus* of Linnæus, briefly described in his Fauna Suecica ; and the measurements of this species, as given by M. Nilsson, the Swedish Professor of Natural History at Lund, in his Ornithologia Suecica, vol. ii. p. 182, appear to prove that the true *parasiticus* of Linnæus is the same species as that to which Mr. Swainson, in the Fauna Boreali Americana, has attached the name of the distinguished naturalist and companion of Sir John Franklin. As all the five species of the genus *Lestris*, found in Europe, are visiters to the Arctic Regions, and all are alike parasitic in their habits, ornithologists are indebted to Mr. Swainson for thus worthily superseding terms, which, from the advancement in natural history, have ceased to convey specific distinctions.

Of the species of this genus which visit this country, Dr. Richardson's Skua is the most numerous. Pennant, in his time, found it breeding at the islands of Juray, Ilay, and Rum, in the Hebrides; and in his British Zoology gives figures of it in three different states of plumage. Mr. J. Macgillivray, who visited the Outer Hebrides in the summer of 1840, says, "Richardson's Skua breeds in several spots in the interior of North Uist, and a few stragglers might now and then be observed upon the coasts, chasing the Terns and smaller Gulls."

In the Orkneys this species has been observed on almost every island, but the principal breeding-places are in Hoy and the Holm of Eddy, or Eday, as mentioned by Mr. Salmon and Mr. Dunn. In some instances these birds frequent the tops of the highest hills ; in others they appear to prefer those unfrequented heaths which are low and marshy, but making their nest of dry grass and mosses upon some slight but dry eminence. Mr. Salmon says, "When the female left her nest, we observed her endeavouring to decoy us away, by pretending to be lame, and tumbling about as if her wing were broken; and it was this circumstance that led us to look more attentively."

In Shetland this species breeds on the islands of Noss, Unst, and Foula, and their various breeding-stations have been visited Mr. Drosier, Mr. Dunn, and Mr. Hewitson. Here these birds seem to breed in society, from fifty to sixty being met with at the same place. The eggs are usually but two in number, olive-brown in colour, spotted with dark brown; the length two inches four lines, by one inch and eight lines in breadth. As the young were already hatched, Mr. Drosier observes, I had an opportunity of observing them, several were discovered concealed in the long grass; and, although many of them were only covered with down, still the blue legs and black toes were very distinct. As the season advanced, some that had not lost the down off their heads were of a beautiful light brownish colour, distinctly barred and spotted with black; and in others, as they advanced in growth, the brown colour was gradually disappearing, until, in many specimens, only a very few brown marks were discernible and the middle tail-feathers began to elongate.

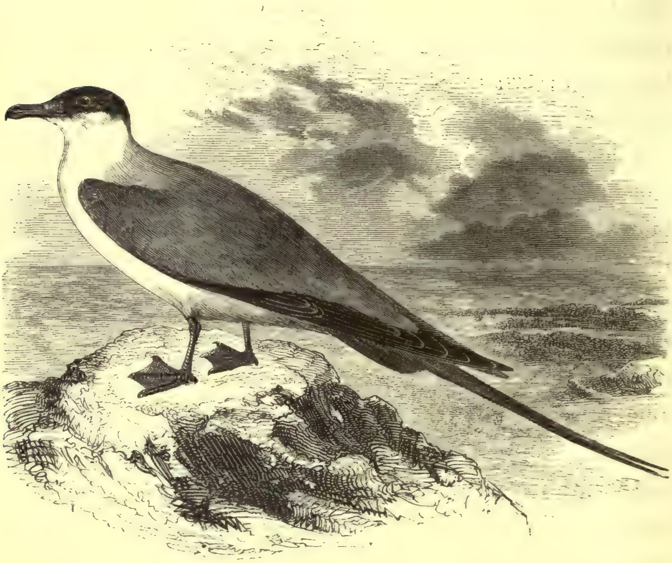
In Norway Mr. Hewitson says, these birds breed most commonly apart from each other, each pair taking possession of its separate island, upon the highest point of nearly all of which they are constantly to be seen perched, and upon it they usually lay their eggs; sometimes, however, choosing the lower grounds. Here, also, they are the persecutors of the other species of sea-fowl, even to sucking their eggs whenever their owners left them uncovered. This species is found over the seas and coasts of the North of Europe and North America, but from the breeding-stations in Scotland and Norway, which they quit in August, some of the young birds of the year rove southward, down the western and eastern lines of the coast of England, as before mentioned in reference to other species of the genus. Richardson's Skua has been killed in Lancashire, and on the eastern coast of Ireland, both in the bays of Belfast and Dublin. This Skua was seen by Sir Wm. Jardine upon the Durness Firth in Sutherlandshire, in June, 1834. Several examples have been killed on the coast of Durham late in August and early in September, and most of them young birds of the year; others have been obtained in the county of Norfolk. Some years since I saw a young bird that had just been shot on the Thames at Battersea; and in the autumn of 1842, four young birds of the year were shot on the reservoir at Kingsbury, a few miles north of London; two of these specimens were more uniformly dark brown than the other two, from having lost many more of the light brown margins of the first set of feathers. These birds appear also on the coasts of Kent, Sussex, Hampshire and Devonshire. Both the adult and the young have been taken in Cornwall. M. de Selys Longchamps, in his Fauna of Belgium, says, *Lestris Richardsonii* occurs occasionally on the Dutch and Belgian shores.

The young bird during its first autumn and winter has the base of the beak and the cere brownish-grey; the anterior portion conspicuously curved and black; the irides dark brown; the head and neck pale brown, streaked with dark brown: the back, wing-coverts, and tertials umber-brown, margined with wood-brown; wing-primaries brownish-black, tipped with pale brown; tail-feathers pale brown at the base, then brownish-black to the end; the central pair half an inch longer than the others; neck in front, breast, belly, and under tail-coverts pale yellowish wood brown, mottled and transversely barred with umber-brown; legs, and the base of the toes yellow, the ends of the toes and the anterior portion of the intervening membranes black, and hence called sometimes the Black-toed Gull; but this is only an indication of youth: as the bird increases in age the yellow colour is lost by degrees.

The next stage, which in this species, also, as in the Pomarine Skua, probably occurs in the second year, the plumage is of a uniform greyish umber-brown, the whole of the light brown margins having disappeared, and the bird has now acquired its full size, measuring from the point of the beak to the end of the long feathers of the tail twenty inches, the central pair of tail-feathers being three inches longer than the next feather on each side; the wing, from the anterior bend to the end of the longest quill-feather, thirteen inches and three-quarters; the tarsus one inch and three-quarters; the middle toe and claw together the same length, or one inch and three-quarters.

After this stage a few yellow hair-like streaks appear on the sides of the neck; next, the sides of the neck become lighter in colour: and, advancing in age, the neck all round becomes white, tinged with yellow, the head remaining of the same colour as the back. Males and females are not distinguishable by their plumage, and as this species, like the smaller Gulls, is capable of breeding when one year old, it is observed, that birds, sometimes in similar states, and sometimes in very different states as to plumage, are in pairs at the breeding-stations.

NATATORES. *LARIDÆ.*



BUFFON'S SKUA.

Lestris Buffonii.

Lestris parasiticus,	*Arctic Skua,*	JENYNS, Brit. Vert. p. 283.
,, ,,	,, *Jager,*	EYTON, Rare Brit. Birds, p. 55.
,, ,,	*Parasitic Gull,*	GOULD, Birds of Europe, pt. iv.
,, ,,	*Stercoraire parasite,*	TEMM. Man. d'Ornith. vol. ii. p. 501.

THIS smaller species of the genus *Lestris*, of which the most adult examples measure only twelve inches from the anterior bend of the wing to the end of the longest quill-feather, and are otherwise distinguished by characters to be hereafter referred to; although much more rare than Dr. Richardson's Skua, has occasionally been taken in this country, and I have followed the example set by others, of separating this species also from the term *parasiticus*, with which it appears to have been erroneously mixed up, and with which its measurements do not coincide.

The Arctic bird from Hudson's Bay, figured by Edwards, in his Natural History, plate 148, described as having the wing only twelve inches long when closed, the middle tail-feathers thirteen inches long, and the middle toe but one inch and a half in length, is, I think, without doubt, from these particulars, as well as the peculiar form of the tail-feathers, an adult male of Buffon's Skua; but Edwards' plate 149, representing a female brought by Mr. Isham from the same locality, and said to exceed it a little, is a younger bird, and probably belongs to the species last described, namely, Dr. Richardson's Skua, both species being known to inhabit North America. An adult specimen killed in this country is preserved in the British Museum; and the Zoological Society, in 1832, received this species from Orkney, with skins of the three other British species of this genus, and of the Ivory Gull. Young birds of Buffon's Skua in the brown plumage of their first autumn have been killed in the vicinity of the Tyne, and on the coast of Durham, in the month of September; and Mr. John Hancock, of Newcastle-upon-Tyne, obtained a mature individual that was shot near Whitburn, in the county of Durham, at the end of October, 1837.

M. de Selys Longchamps says, this species, has been obtained on the coast of Dunkirk and Picardy.

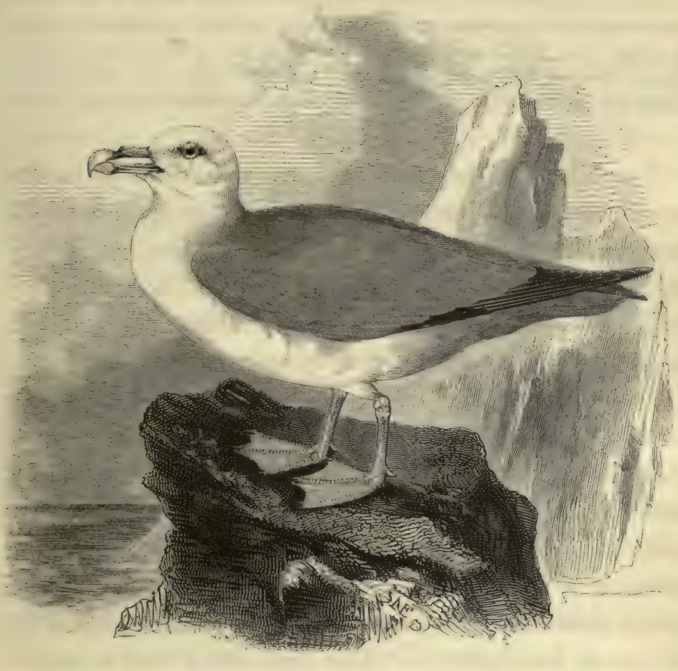
Buffon's Skua visits Norway and Iceland. Dr. Richardson says, "It inhabits the Arctic sea-coasts of America and Europe in the summer, migrating to the more temperate parts in winter. Numerous specimens were brought home by the late expeditions from Melville Peninsula, the North Georgian Islands, Baffin's Bay, and Spitzbergen. It resembles the Lestris pomerina in its manners." The egg, as figured by Thienemann, is of a pale green colour, spotted with ash-grey and dark reddish brown; the measurements are two inches in length, by one inch and five lines in breadth.

In the adult bird the base of the bill including the cere, is dark greenish-brown, the horny, curved point black; irides brown; all the upper part of the head black; sides and back of the neck white, tinged with straw yellow; back, tertials, wing, and tail-coverts brownish-grey; primaries and tail-feathers almost black; chin, throat, and upper part of belly white; lower part of the belly, the vent, and under tail-coverts light brownish-grey; legs, toes, and their membranes black: the tarsi still bearing some traces of their previous yellow colour.

The whole length of the specimen described, from the point of the beak to the end of the tail-feather next the central pair, thirteen inches and a half, the central feathers extending nine inches beyond; the wing from the anterior bend to the end of the longest quill-feather, twelve inches; the tarsus one inch and a half; the middle toe and the claw rather shorter, or one inch and three-eighths.

Independently of the difference in measurements, adult birds of this species, compared with old ones of the species previously described, have the head always much darker in colour, while the back is lighter.

The fifth European species of *Lestris* which I have referred to, is that noticed by Dr. Richardson in his Fauna Boreali-Americana, page 432, under the name *Stercorarius cepphus* of Leach. Two examples from Hecla Bay and Spitzbergen are in the collection at the British Museum, and I possess one brought home from the Greenland seas. It is at once to be distinguished by the great comparative breadth of the bill at its base.



THE FULMAR PETREL.

Procellaria glacialis.

Procellaria glacialis,	*Fulmar Petrel,*	PENN. Brit. Zool. vol. ii. p. 203.
„ „	*The Fulmar,*	MONTAGU, Ornith. Dict.
„ „	„ „	BEWICK, Brit. Birds, vol. ii. p. 256.
„ „	*Fulmar Petrel,*	FLEM. Brit. An. p. 135.
„ „	„ „	SELBY, Brit. Ornith. vol. ii. p. 523.
„ „	*Northern Fulmar,*	JENYNS, Brit. Vert. p. 284.
„ „	*Fulmar Petrel,*	GOULD, Birds of Europe, pt. iv.
„ „	*Petrel Fulmar,*	TEMM. Man. d'Ornith. vol. ii. p. 802.
„ „	„ „	„ „ „ vol. iv. p. 505.

PROCELLARIA. *Generic Characters.*—Beak not so long as the head ; the upper mandible composed of four portions, divided by lines, or indentations ; the whole together large and strong, curving suddenly towards the point ; the under mandible grooved along each side, bent at the end, with a prominent angle beneath ;

the edges of both mandibles sharp and cutting; those of the lower mandible shutting just within those above. Nostrils prominent along the upper ridge of the upper mandible, but united, enclosed, and somewhat hidden within a tube with a single external orifice, within which the division between the two nasal openings is visible. Feet moderate, tarsi compressed; three toes in front united by membranes, hind toe very small, rudimentary. Wings rather long, the first and second quill-feathers nearly equal in length, and the longest in the wing.

The Fulmar Petrel is only a winter-visiter to the more southern parts of England, and the specimens obtained, even at that season of the year, are but few in number; some of these, and the localities in which they were obtained, will be referred to hereafter. G. C. Atkinson, Esq., of Newcastle-upon-Tyne, as described by Mr. Hewitson, met with these birds in great numbers on the islands of St. Kilda, Borrera, and Soa, and was informed that they also breed in the south isles of Barra, in the outer Hebrides. St. Kilda has been long noted as the principal breeding-place, and the following account was given in a recent number of the Edinburgh New Philosophical Journal by Mr. John Macgillivray, who visited St. Kilda, in June, 1840:—"This bird exists here in almost incredible numbers, and to the natives is by far the most important of the productions of the island. It forms one of the principal means of support to the inhabitants, who daily risk their lives in its pursuit. The Fulmar breeds on the face of the highest precipices, and only on such as are furnished with small grassy shelves, every spot on which, above a few inches in extent, is occupied with one or more of its nests. The nest is formed of herbage, seldom bulky, generally a mere shallow excavation in the turf, lined with dried grass, and the withered tufts of the sea-pink, in which the bird deposits a single egg, of a pure white colour when clean, which is seldom the case, and varying in size from two inches seven lines, to three inches one line in length, by two inches in breadth. On the 30th of June, having partially descended a nearly perpendicular precipice six hundred feet in height, the whole face of which was covered with the nests of the Fulmar, I enjoyed an opportunity of watching the habits of this bird, and describe from personal observation. The nests had all been robbed about a month before by the natives, who esteem the eggs of this species above all others. Many of the nests contained each a young bird a day or two old at farthest, thickly covered with long white down. The young birds were very clamorous on being handled, and vomited a quantity of clear oil, with which I sometimes observed the parent birds feeding them by disgorging it. The old birds, on being seized, instantly vomit a quantity of clear amber-coloured oil, which imparts to the whole bird, its nest and young, and even to the rock which it frequents, a peculiar and very disagreeable odour. Fulmar oil is among the most valuable productions of St. Kilda. The best is obtained from the old bird. The Fulmar flies with great buoyancy and considerable rapidity, and when at sea is generally seen skimming along the surface of the waves at a slight elevation, though I never observed one to alight, or pick up anything from the water."

The Fulmar does not breed on the islands of Orkney or Shetland, but occasionally visits the latter during winter in stormy weather.

Captain Wm. Scoresby, in his account of the Arctic Regions, has given a long account of this species, part of which is as follows:—"The Fulmar is the constant companion of the whale fisher. It joins his ship immediately on passing the Shetland Islands, and accompanies it through the trackless ocean to the highest accessible latitudes. It keeps an eager watch for anything thrown overboard; the smallest particle of fatty substance can scarcely escape it. They are remakably easy and swift on the wing. They can fly to windward in the highest storms, and rest on the water in great composure, in the most tremendous seas. But it is observed, that in heavy gales they fly extremely low, generally skimming along by the surface of the water. Fulmars are extremely greedy of the fat of the whale. Though few should be seen when a whale is about being captured, yet, as soon as the flensing process commences they rush in from all quarters, and frequently accumulate to many thousands in number. They then occupy the greasy track of the ship; and being audaciously greedy, fearlessly advance within a few yards of the men employed in cutting up the whale. It is highly amusing to observe the voracity with which they seize the pieces of fat that fall in their way; the size and quantity of the pieces they take at a meal; the curious chuckling noise which, in their anxiety for despatch, they always make; and the jealousy with which they view, and the boldness with which they attack any of their species that are engaged in devouring the finest morsels. When carrion is scarce, the Fulmars follow the living whale, and sometimes by their peculiar motions, when hovering at the surface of the water, point out to the fisher the position of the animal of which he is in pursuit. They cannot make much impression on the dead whale, until some more powerful animal tears away the skin, for this is too tough for them to make way through it."

In a recently-published account of the Faroe Islands, it is stated, that from twenty thousand to thirty thousand young Fulmars are annually caught on the West Manna Islands.

The Fulmar is found at Spitzbergen and Iceland. Mr. Proctor observed that it was common at Grimsey Island.

It is found in the Greenland Seas, at Davis's Straits, Baffin's Bay, Hudson's Bay, and Newfoundland.

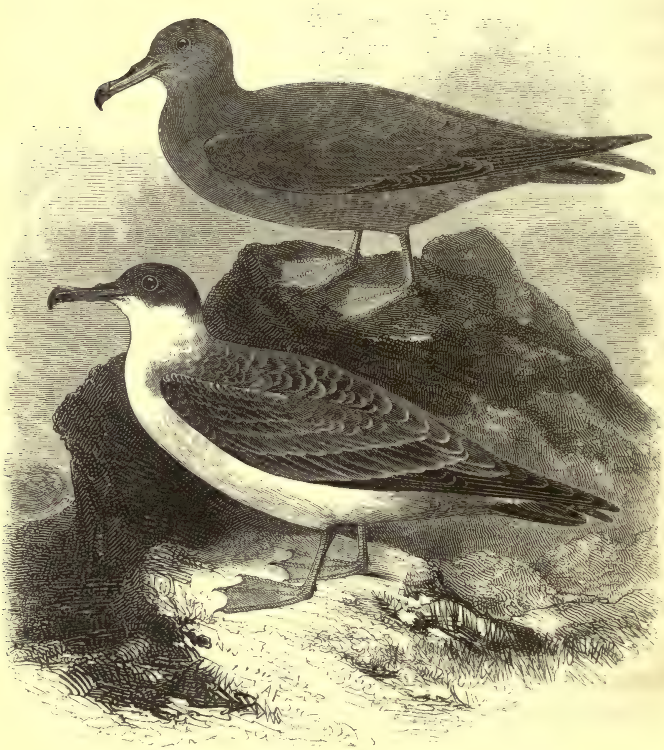
In this country specimens have been procured on the coast of Durham; it has also been occasionally shot or caught in Yarmouth Roads. A fine example is preserved in the Museum at Saffron Walden, which was obtained in Essex. It has also been shot in Cornwall, and sometimes but not often, on the coast of Wales.

On the other side of the Channel it has occurred on the coast of Holland, Picardy, Brittany, and Dunkirk.

In the adult bird the curved point of the bill is yellow, the sides horny white, the superior ridge investing the nostrils greyish-white; irides straw yellow; the whole head and the neck all round pure white; the back, all the wing-coverts, secondaries, tertials, upper tail-coverts, and tail-feathers pearl grey; wing-primaries slate grey; breast, belly, and all the under surface of the body pure white; legs, toes, and their membranes brownish-yellow; the claws slender, but curved and pointed. The whole length of an adult male about nineteen inches; the wing, from the anterior bend, twelve inches; the middle toe and its claw longer than the tarsus.

A young Fulmar in its second summer, probably twelve or fourteen months old, has the tip of the bill yellow, the other parts greyish horn colour; head, neck, back, wings, and tail nearly uniform ash-brown, but the surface of the back and wings rather darker in colour; chin, neck in front, and all the under surface of the body also uniform ash-brown, but rather paler in colour than the upper surface; legs, toes, and their membranes pale brown.

NATATORES. *LARIDÆ.*



THE GREATER SHEARWATER.

Puffinus major.

Puffinus cinereus,	*Cinereous Shearwater,*	SELBY, Brit. Ornith. vol. ii. p. 528.
Procellaria puffinus,	,, ,,	JENYNS, Brit. Vert. p. 284.
,, *fuliginosus,* ,,	,,	,, ,, ,, 285.
Puffinus cinereus,	,, ,,	EYTON, Rare Brit. Birds, p. 49.
,, *fuliginosus,*	*Dusky* ,,	,, ,, ,, ,, 51.
,, *cinereus,*	*Cinereous* ,,	GOULD, Birds of Europe, pt. xix.
,, *major,*	*Puffin majeur,*	TEMM. Man. d'Ornith. vol. iv. p. 507.

PUFFINUS. *Generic Characters.* — Bill as long, or longer than the head, slender, upper mandible compressed and curved towards the point; under mandible also slender and curved at the point. Nostrils tubular, opening by two separate orifices. Legs of moderate length, tarsi compressed laterally ; toes three in front, rather long, webbed throughout ; hind toe rudimentary. Wings long and pointed, the first quill-feather the longest.

The first example of the Greater Shearwater obtained in this country was exhibited at a meeting of the Zoological Society in July, 1832, by Mr. Arthur Strickland, of Boynton, near Burlington, in Yorkshire, who stated that it was shot by Mr. George Marwood, jun., of Busby, in the middle of August, 1828, on a very stormy day, at the mouth of the Tees; it was seen early in the morning, sitting on the water like a duck, and was shot as it was rising; its manner of flight was consequently not noticed. In 1833 Mr. Strickland very kindly gave me a coloured drawing taken from his bird; this resembles the upper figure in the woodcut here given. Since that period Mr. Strickland has obtained a second specimen, much lighter in colour on the under surface; both these examples are figured in the 19th part of the Birds of Europe, by Mr. Gould, who remarks, "With respect to the specimens forwarded by Mr. Strickland, which we have figured, we have to observe, that these two birds, although agreeing in their measurements with each other, differ slightly from a specimen of *Puffinus cinereus* sent to us by M. Temminck as an undoubted example of that species, Mr. Strickland's specimens being less in all their measurements; and could we have discovered any difference in the markings of their plumage, we should have had no hesitation in regarding them as distinct; as it is, we have here figured both Mr. Strickland's birds as of one and the same species, but with a mark of doubt as to their being examples of the true *Puffinus cinereus*."

To these two figures M. Temminck refers in the 4th part of his Manual, p. 507, under the name of *Puffinus major* of Faber, and considers the lighter-coloured bird as a male, the darker bird as a female. M. Temminck also refers to, and includes under, this species a dark-coloured bird obtained on the coast of Northumberland by Mr. Selby, who considers it to be a young bird. Mr. Harley sent me notice of one killed in Leicestershire. Dr. Edward Moore, in his Catalogue of the Birds of Devonshire, mentions that several specimens have been obtained on that coast, but had not till lately been distinguished from the Manks Shearwater. *Puffinus anglorum.*

For the two birds from which the figures here given were drawn, I am indebted to the liberality of D. W. Mitchell, Esq., of Penzance, who supplied me, in addition, with the following account of the appearance of this species on the coast of Cornwall:—"In November, 1839, a man brought me a *Puffinus major* alive, which he said he had found asleep in his boat when he went off to unmoor her, preparatory to a fishing expedition. I suppose this happened about three in the afternoon, and the bird had, probably, taken up his quarters at daylight. The moorings at Newlyn are from one hundred to two hundred yards from the shore. There were great numbers of this species off Mounts Bay at that time, and I soon after had two more brought to me, which had been taken by hooks. One of them is the light-coloured specimen in your collection. The dark-coloured bird which you have figured was, I believe, obtained in a similar manner about the same period in 1838. It is the only example in that state which I met with during my residence in Cornwall. The adult bird appears pretty regularly every autumn, though not always in equal numbers. It has long been in several collections at Plymouth, though it does not appear to have been distinguished there from *P. anglorum*, until Dr. Moore published his Catalogue of the Birds of Devon. The latter is not a very common bird there, which may have been the cause of such a mistake.

"P. major is very well known to the Scillonians, by whom it is called *Hackbolt*. They inform me it is a constant visitant in the latter part of autumn, and represent its manners on the water as resembling those of *P. anglorum*. I recollect seeing four last year, through a telescope, in Mounts Bay. It was late in the afternoon, the wind blowing hard from S.S.W., which accounted for their being so far in-shore; they are generally deep sea-goers. They had exactly the flight of *P. anglorum*, and kept so close to the water as almost to skim the tops of the waves. Mr. Clement Jackson told me last spring that they appear some autumns off Looe and Polperro in thousands."

Mr. Wm. Thompson has recorded two occurrences of this species on the south of Ireland, communicated to him by Mr. Robert Davis, jun., of Clonmel, who also sent me notice of the circumstance, and a coloured drawing. One bird was taken in the autumn of 1838, the other in the autumn of 1839. Mr. Davis says, "I kept the second specimen alive for about a week, but, not having a suitable place for that purpose, killed it and set it up. As well as I can recollect the former specimen, this resembled it in every respect. It was, however, more lively, and ran along very rapidly, with the breast about an inch and a half from the ground. Having, on one occasion, put it on a roof, it seemed to be more at ease on the inclined plane afforded by that situation, than on a flat surface; it mounted rapidly to the top, though when it came to the edge no attempt to fly was made, and it fell heavily to the ground. It rarely stirred at all during the day, but kept itself as much concealed as possible, and, if it could not hide its body, would endeavour to conceal its head. The fishermen sometimes keep them for weeks about their houses, and in some instances they have become tame; they never attempt to fly. It does not appear that the Manks Shearwater is ever seen, nor could I ascertain that a Greater Shearwater was ever shot, but always taken with a hook. They are commonly known by the name of *Hagdowns.*"

Mr. Thompson further adds: "So little is known respecting this species as an inhabitant of our seas, that I am induced to add the following: Mr. Robert Ball, when dredging off Bundoran, on the west coast of Ireland, in company with Mr. E. Forbes and Mr. Hyndman, on the 16th of July, 1840, saw three Petrels on wing near to him, which he believed to be of this species."

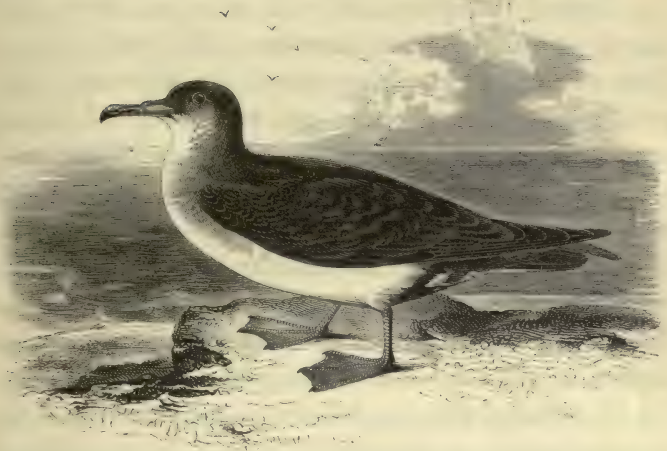
Faber's account of this species in his Prodromus of the Ornithology of Iceland, is very short; in substance, it is as follows:—"It is very scarce, and is only seen on the most southern parts of the island; it does not breed here. Only a single individual has fallen into my hands. The fishermen talk of a *Puffinus*, which they see sometimes, and is twice as big as *Puffinus articus*, (Faber's name for our *P. anglorum*,) it may well be this one." There is no description, but I infer that Faber's bird was white underneath, and that he called it *P. major* because it only differed from our *P. anglorum*, which is common in Iceland in being larger. The measurement of *P. cinereus* of Gmelin, Latham, and others are stated at twenty inches and a quarter, for the whole length of that species, but of the several examples of our Greater Shearwater that I have seen, none have exceeded eighteen inches in length, and the dark-coloured specimens, which may be females, or young birds, are not quite so much. That our new bird is not the *P. fuliginosus* of Kuhl, I feel certain, from having obtained a specimen of this bird, which is not only two inches shorter in its whole length than our new bird, but is also a true *Procellaria*, having the short, strong, hooked, and cutting beak, like that of our Fulmar last described.

In the dark-coloured bird from which our upper figure was taken, the bill is dark brown, the base of the under mandible lighter brown ; irides dark brown ; head and neck all round and the back dark clove-brown ; scapulars and tertials the same, but with lighter-coloured margins ; wing-coverts, primaries, and tail-feathers blackish-brown ; breast and belly greyish hair-brown, each feather much darker in colour on the margin than over the centre ; legs brown on the outer surface, but pale wood-brown on the inner ; toes and their membranes yellowish-brown. The whole length of the bird seventeen inches and one quarter ; wing, from the anterior bend, twelve inches and three quarters ; whole length of the bill one inch and three-quarters ; of the tubular portion half an inch ; of the tarsus two inches ; of the middle toe, including the claw, two inches and five-eighths.

In the bird from which the lower figure in our woodcut was taken the bill is dark brown, under mandible lighter brown at the base ; irides dark brown ; head and occiput dark ash-grey ; back of the neck almost white ; back, wing-coverts, and tertials ash-grey ; all the margins greyish-white ; primaries and tail-feathers blackish-brown ; chin, sides, and front of neck, the breast, and sides of the body white ; lower belly, vent, and under tail-coverts varied with dull white and ash-brown; legs, toes, and their membranes brownish-yellow. The whole length eighteen inches; of the wing, from the bend, thirteen inches; whole length of the bill one inch and seven-eighths, of the tubular portion half an inch; of the tarsus two inches and one-eighth; of the middle toe and claw two inches and seven-eighths.

There are specimens in the British Musuem, from South Africa, and known to be the young and adult of the same species, which exactly resemble the two birds here figured.

M. Temminck says this species breeds by thousands on the banks of Newfoundland. It is probably the Wandering Shearwater of Messrs. Audubon and Nuttall.



THE MANX SHEARWATER

Puffinus anglorum.

Procellaria puffinus,	*Shearwater Petrel,*	PENN. Brit. Zool. vol. ii. p. 206.
,, ,,	*The Shearwater,*	MONTAGU, Ornith. Dict.
,, ,,	,, ,,	BEWICK, Brit. Birds, vol. ii. p. 206.
Puffinus anglorum,	*Manks Puffin,*	FLEM. Brit. An. p. 137.
,, ,,	,, *Shearwater,*	SELBY, Brit. Ornith. vol. ii. p. 529.
Procellaria ,,	,, ,,	JENYNS, Brit. Vert. p. 285.
Puffinus ,,	,, ,,	GOULD, Birds of Europe, pt. xiv.
Procellaria ,,	*Petrel Manks,*	TEMM. Man. d'Ornith. vol. ii. p. 806.
Puffinus ,,	,, ,,	,, ,, ,, vol. iv. p. 509.

So exclusively aquatic, says Mr. Gould, is this little tenant of the ocean, that the impulse of incubation alone induces it to visit land, on which occasion it resorts to those portions only of the shore which are washed by the surge, generally selecting such places as small islands, which, from the danger of approach, or their rocky nature, are seldom made the residence of man. Whenever he does take up his abode there, the number of birds speedily diminishes; and this is shown by the absence at the present period of this species in the Calf of Man, where, in the time of Willughby, and even at a later date, they appear to have been very abundant. This diminution of their numbers is wholly occasioned by the wanton and greedy destruction of their eggs and young, which are eagerly sought after as an article of food, the latter being considered by many a great delicacy, and eaten both fresh and salted.

On the eastern part of the southern line of our coast this Shearwater is a rare bird; it is more frequently seen at sea off Dorset and Devon, becoming still more numerous farther to the westward. I have been favoured by Mr. D. W. Mitchell with the following account of the habits of this species, as observed by himself off the coast of Cornwall:—

"To the westward of St. Agnes, in the Scilly group, lies a barren island called Annet. Its northern shore is abrupt and craggy, it gradually slopes towards the south, and narrows into a sort of peninsula, where the sandy soil is rich enough to produce a dense growth of short ferns. Here is the strong-hold of the Shearwaters. Sit down on a rock which commands the little territory, and you will see nothing but the Terns, who have a station on the higher and central part of the island, and are making a flight of inquiry very much like the Black-headed Gulls in your vignette, at page 556. Yes, you will see a hundred or two of Oyster-catchers, who do not like your landing so near their nests, and make short journeys hither and thither, whistling all the while like birds possessed. You will see two or three pairs of Turnstones, and a few Ring Dotterel; perhaps a Curlew. You may wait all a sunny day in June, but not a Shearwater will you see on land or water. There are plenty near you all the time, however, as you may ascertain by the odour which issues from the first burrow you look into among the ferns. As soon as the sun is down you will see a little party of five or six flitting silently across the sound, or steering out to sea. The latest fishers from the colony of Terns are coming home from the sandy shallows, five or six miles away, with their throats and beaks crammed with Lance-fish, when the Shearwaters begin to wake. You will not see them come out of their holes; you first catch sight of them skimming round the corner of a rock close to the water. Perhaps they will have a great gathering, such as I encountered one evening in 'Smith's Sound.' There was a congregation of at least three hundred, in the middle of the tide-way, washing, dipping, preening feathers, and stretching wings, evidently just awake, and making ready for the night's diversion. As I wanted a few specimens more than I had dug out of the burrows, I ran my boat well up to them, and when they rose, got as many as I wished, besides a few unfortunate cripples who were only winged, and proved, by their agility in swimming and diving, a good deal too much for my boatmen. I think a good dog would have no chance with them. They allowed me to come quite close. They sit low in the water; they make no noise when disturbed, though in their holes they are eloquent enough, the Scillonian synonyms of *Crew* and *Cockathodon* being derived from the guttural melodies they pour forth as the spade approaches the end in which the egg is deposited. I once caught a pair in one burrow who were crooning a duet of this kind before we commenced operations. I presume they were in the honey-moon, as there was no egg. It is frequently deposited on the fine sandy soil without any preparation, though generally there is a slight accumulation of fern leaves and old stems. They produce but one egg, which, when fresh laid, is of the most dazzling whiteness, and of peculiarly beautiful texture; it measures two inches five lines in length, by one inch nine lines in breadth, and is very large for the size of the bird. When you kill a Shearwater by pressure, as I generally did for the sake of her skin, she vomits a most abominable oil, in which float so many particles of brilliant green that it appears of that colour, though the stain it leaves is yellow. The quantity got rid of in this way is sometimes enormous.

"When the young bird leaves the egg it is covered with greyish-black down, except a stripe along the centre of the breast and belly, which is white. I found a chick very lively in an egg which had been taken from the burrow two days previously to my examining it. My notice was attracted by hearing a little voice in the basket as I sat preparing a skin about midnight. I thought of Asmodeus in the bottle immediately."

The Manx Shearwater visits the coast of South Wales in considerable numbers in spring. Mr. Gould mentions having received from thence, through the medium of a friend, no less than four dozens of these harmless creatures at one time, with an assurance that as many more would be forwarded if required. These were all evidently captured by the hand, none of them exhibiting any of the usual indications of having been shot.

The Manx Shearwater is only an occasional visiter to Ireland, and, according to Mr. Thompson, is more rare now than formerly. It breeds every season at St. Kilda and Soa, among the islands of the Hebrides, at Pappa Westra in the Orkneys, and at Foula and Unst in Shetland, depositing its single egg either in a rabbit-burrow or a crevice in the rock; but as soon as the young are able to follow the parents, all take to the open sea together. As observed in the south, these birds are somewhat crepuscular in their habits, and feed upon fish, marine insects, worms, &c.

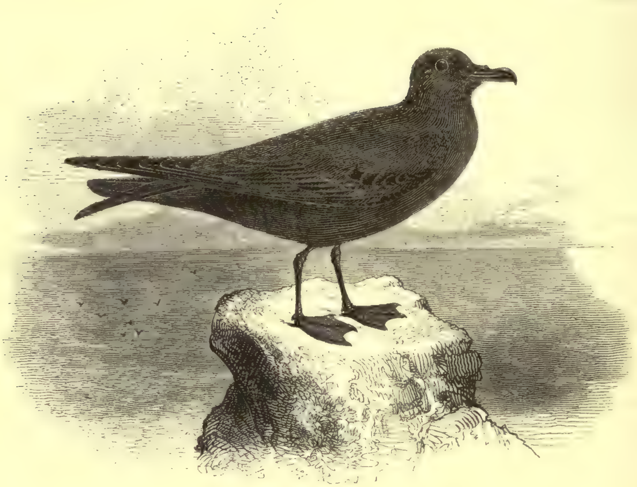
The Manx Shearwater is found on the coast of Norway, the Faroe Islands, and at Cape Farewell, where the sailors call them Cape Hens. Faber includes it among his Birds of Iceland; and Mr. Proctor, who has been there, tells me he found it common on the west coast. Though included among the Birds of the United States, but few are seen to the west of Newfoundland.

It is rather a rare bird on our eastern coast, but has been obtained at the Farn Islands, and on the coast of Norfolk. It is rare also on the shores of Holland and France. It has been taken at Genoa, in the Adriatic, and in the Mediterranean. Dr. Heineken included it among the Birds of Madeira. M. Temminck mentions having received one from the Bosphorus; and Mr. Hugh Strickland also obtained this species at Smyrna.

The appearance of the young chick has been already noticed. M. Temminck, in the 4th part of his Manual, says, the young birds of the year have all the under parts of a deep ash colour.

In the adult bird the bill is blackish-brown, but lighter brown at the base; irides hazel; head, back of the neck, back, wings, and tail, uniform brownish-black; chin, and neck in front white; sides of the neck varied with dark grey and white in transverse bars; breast, belly, and under tail-coverts white; behind the thighs a patch of brownish-black; legs, toes, and their membranes brown.

The whole length of the bird fourteen inches; from the anterior bend of the wing to the end of the longest quill-feather nine inches and a half.



BULWER'S PETREL.

Thalassidroma Bulwerii.

Procellaria Bulwerii,	*Bulwer's Petrel,*	JARDINE and SELBY, Illust. Ornith. vol. ii. pl. 65.
Thalassidroma Bulwerii,	„ „	GOULD, Birds of Europe, pt. xxii.

THALASSIDROMA. *Generic Characters.*—Bill shorter than the head, much compressed in front of the nasal sheath, with the tip of the upper mandible suddenly curving and hooking downwards, and that of the lower one slightly angulated, and following the curve of the upper. Nostrils contained in one tube or sheath, but showing two distinct orifices in front. Legs, having the tarsi rather long and slender, reticulated. Feet of three toes, united by a membrane. The outer and middle toes nearly equal in length, and longer than the inner; hind toe represented by a small, straight, dependant nail. Wings long, acuminate. Tail square, or slightly forked. *Selby.*

SEVERAL species of Petrel, all of small size, were separated by the late Mr. Vigors from the other genera of Petrels on account of distinctions observable in their external structure, as referred to in the generic characters,* as well as some differences in their habits, which will appear in their histories. Those who have an opportunity of examining and comparing the skeleton of our Manx Shearwater with that of the Storm Petrel, cannot fail to observe internal distinctions also; that of the Manx Shearwater possessing the sternum, and low keel of a swimming and diving-bird; the Storm Petrel, on the other hand, exhibiting the deep keel of a Swift, and possessing accordingly enduring powers of flight. These birds form M. Temminck's third section of the genus *Procellaria*, which section has been advanced to generic distinction in the 4th Part of M. Temminck's Manual. The term *Thalassidroma* refers to the power and habit of this group of running on the surface of the sea.

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* Zoological Journal, vol. ii. page 405.

The first published notice of Bulwer's Petrel that I am acquainted with, is that by Sir William Jardine and Mr. Selby, in the second volume of their "Illustrations of Ornithology," already quoted.

"We are indebted to the kindness of Mr. Bulwer, during some years a resident in Madeira, for the subject of this plate, which we consider as yet undescribed. It is not to be found in the works of Latham or Shaw, or indeed in any other which we have had an opportunity of consulting; and, from its marked characters, it is not a species that would be easily overlooked. The length of our specimen is about ten inches; it inhabits Madeira, or the small islands adjacent."

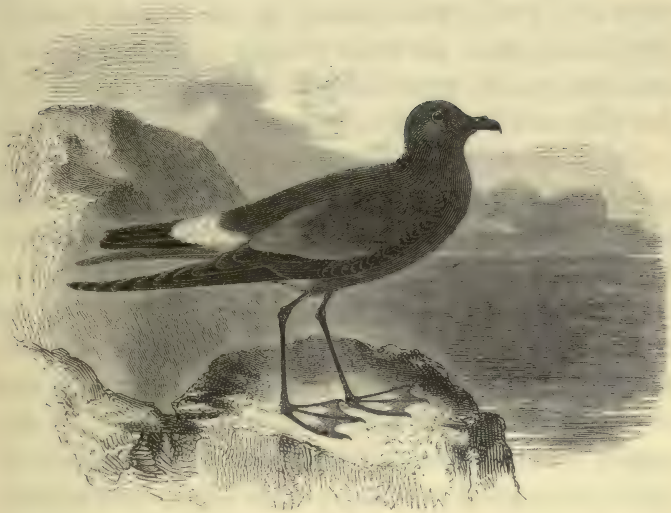
For its title to a place among our British Birds I refer to Mr. Gould, who, in the 22nd, the concluding, part of his Birds of Europe, gives a figure from a specimen obtained in this country, with the following observations:—

"On the authority of Colonel Dalton, of Slenningford, near Ripon, we are enabled to add this rare species to the

Fauna of Britain, from a fine specimen which was found on the banks of the Ure, near Tanfield, in Yorkshire, on the 8th of May, 1837; and which could not have been long dead, as it admitted of being mounted as a good cabinet specimen. It is now in the possession of Colonel Dalton, who doubtless regards it as one of the greatest treasures in British Ornithology. In fact, with the exception of one or two foreign examples, we do not recollect that we have observed it among the numerous collections we have had opportunities of examining. As it is stated to be an inhabitant of Madeira and the adjacent islands, we may infer that the seas bounding the western shores of Africa constitute its true habitat."

The figure of the bird here given is taken from Mr. Gould's plate, and represents, therefore, the only British example of this species at present known; but a specimen of this bird in the collection of the Zoological Society enables me to give the following description and measurements:—The bill is black; the irides nearly so; the whole of the plumage almost uniform sooty black, rather paler on the edges of the great wing-coverts; tail rounded; legs and toes dark reddish-brown, the interdigital membrance dark brown. The whole length, from the point of the beak dark brown. The whole length, from the point of the beak to the end of the tail, ten inches and a half; the wing, from the anterior bend to the end of the longest quill-feather, eight inches; the bill is three-quarters of an inch in length from the base; the tarsus, and the middle toe, including the claw, each one inch and one-sixteenth.

There is reason to believe that this Petrel has been distinguished by the specific name *columbina*, in a History of the Canary Islands.



WILSON'S PETREL.

Thalassidroma Wilsoni.

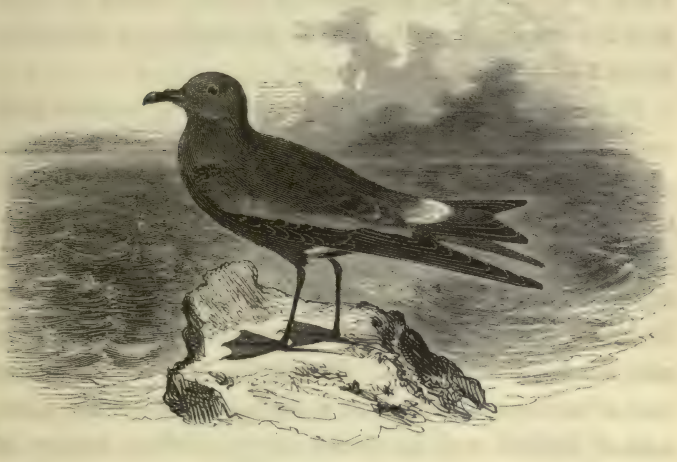
Procellaria Wilsoni,	*Wilson's Petrel,*	JENYNS, Brit. Vert. p. 286.
Thalassidroma „	*Thalassidrome de Wilson,*	TEMM. Man. d'Ornith. vol. iv. p. 512.

IN the Journal of the Academy of Natural Sciences of Philadelphia, volume 3, part 2, 1824, a memoir by Charles L. Bonaparte, now Prince of Canino, gives an account of four species of Storm Petrels, with the distinctive characters, measurements, and figures, of each. Wilson's Petrel, the bird now under consideration, is one of the species included in this memoir, and, at the end of the notice of it, the author says, " I have never learnt that it has been seen on the coasts of Europe. I killed one, that had probably strayed, near the Azores." This is the first printed notice I am acquainted with of the appearance of Wilson's Petrel on this side the Atlantic. Eight or nine years ago I saw two skins of this species which had been taken by the captain of a ship, while sailing up the British Channel. The muscles about the wings of these specimens, which I examined closely, were still soft and moist. I was told that these two birds had been caught by the captain himself, from the stern of his ship, with a baited hook at the end of a long slender line of thread. These are the specimens referred to by the Rev. L. Jenyns, in his British Vertebrata. When the wind blows hard Storm Petrels are known to seek some protection from the gale they are unable to withstand, by flying for hours under the lee, or in the wake of a ship. Their swallow-like appearance, and their gentle habits inviting commiseration, they are frequently fed by throwing small pieces of fatty substances towards them, which the hungry birds eagerly pick up from the surface of the water, and sometimes, it appears, to their own destruction.

In November, 1838, a specimen of Wilson's Petrel was found dead in a field near Polperro, in Cornwall, and a notice of the occurrence was published in the second volume of the Annals of Natural History, by Mr. Couch, who very kindly sent the bird when preserved up to me, that I might take a drawing from it as a British specimen. In the spring of 1839, Mr. Charles Buxton, of Norfolk, sent me notice of one obtained in that county. I received notice of one also from T. C. Heysham, Esq., of Carlisle; and last year a specimen was procured in Sussex, for a knowledge of which I am indebted to Mr. F. Bond. Other examples have probably occurred, but have not, perhaps, been distinguished by those into whose hands they may have fallen. That they might be distinguished in America was the object intended by the Prince of Canino, when publishing his memoir. The portion relating to Wilson's Petrel was afterwards republished in this country, in the first volume of the Zoological Journal, p. 425.

Mr. Audubon, says, " Wilson's Petrel breeds on some small islands situated off the southern extremity of Nova Scotia, and called Mud Islands, but which are formed of sand and light earth, scantily covered with grass. Thither the birds resort in great numbers, about the beginning of June, and form burrows to the depth of two, or two and a half feet, in the bottom of which is laid a single white egg; a few bits of dried grass, scarcely deserving the name of a nest, having been placed for its reception. The egg measures an inch and a half in length, by seven-eighths of an inch in breadth; is almost equally rounded at both ends, and has a pure white colour. By the beginning of August the young follow their parents to the sea, and are then scarcely distinguishable from them. During incubation they remain in the burrows, or at their entrance, rarely going to seek for food before the dusk. On wing this species is more lively than the Forked-tailed, but less so than the Common Stormy Petrel. It keeps its wings nearly at right angles with its body, and makes considerable use of its feet, particularly during calm weather, when it at times hops, or leaps for several feet, or pats the water, whilst its wings are extended upwards with a fluttering motion, and it inclines its head downwards to pick up its food from the water; and I have observed it immerse the whole head beneath the surface, to seize on small fishes, in which it generally succeeded. It can walk pretty well on the deck of a vessel, or any other flat surface, and rise from it without much difficulty. Its notes are different from those of the Forked-tailed Petrel, and resemble the syllables *kee-re-kee-kee.* They are more frequently emitted at night than by day. I have rarely seen Wilson's Petrel farther to the eastward than the Azores, and beyond these islands it generally abandoned the vessel. In my journal, written on board the packet-ship Columbia, commanded by my worthy friend Joseph Delano, Esq., I find the following memorandums: "Wilson's Petrel was first seen, this voyage, about two hundred miles from England, and *alone* until we reached the middle of the Atlantic, when the Forked-tailed came in sight, after which the the latter was most plentiful, and the Stormy Petrel by far the least numerous. During my several visits to the coasts of the Floridas, I saw scarcely any of these birds in the course of several months spent there, but I found them pretty abundant on returning towards Charlestown. This species, like the others, feeds on mollusca, small fishes, crustacea, marine plants, and the greasy substances thrown from vessels. When caught, an oily substance passes from the mouth and nostrils. The sexes are similar in their external appearance."

The bill is black; the irides dark brown; the head, neck, back, wing-primaries, and the tail-feathers, dark brownish-black; greater wing-coverts and the secondaries dark rusty-brown, lighter in colour near the end, with the extreme edges and tips white; upper tail-coverts white; chin, throat breast, and all the under parts sooty black, except the feathers near the vent on each outside, which are white, and some of the under tail-coverts are tipped with white; legs long and slender, with the toes and their membranes black, but with an oblong greyish-yellow patch upon each web. The whole length of a fine specimen seven inches and a half; the wing, from the anterior bend to the end of the longest quill-feather, six inches and one-eighth; length of tarsus one inch three-eighths; middle toe and claw one inch and three-sixteenths.



THE FORKED-TAILED PETREL.

Thalassidroma Leachii.

Procellaria Leachii,	*Fork-tailed Petrel,*	BEWICK, Brit. Birds, vol. ii. p. 261.
„ *Bullockii,*	„ „ „	FLEM. Brit. An. p. 136.
Thalassidroma „	„ „ *Storm* „	SELBY, Brit. Ornith. vol. ii. p. 537.
Procellaria Leachii	*Leach's* „ „	JENYNS, Brit. Vert. p. 286.
Thalassidroma Bullockii,	*Fork-tailed* „	EYTON, Rare Brit. Birds, p. 101.
„ *Leachii,*	„ „ *Storm* „	GOULD, Birds of Europe, pt. xi.
Procellaria „	*Pétrel de Leach,*	TEMM. Man. d'Ornith. vol. ii. p. 842.
Thalassidroma „	*Thalassidrome* „	„ „ „ vol. iv. p. 512.

THIS species of Petrel is but very little smaller in size than the bird last described, but is at once distinguished from it by its forked tail, and its shorter legs. The first specimen of this bird was obtained at St. Kilda in the summer of 1818, by Mr. Bullock, during a tour round the coast of Scotland, principally undertaken with a view to investigate its ornithology. At the sale of Mr. Bullock's collection in the spring of 1819, this specimen was bought by Dr. Leach, and transferred to the national collection in the British Museum. At that time only three other examples of this species were known; one in the Museum at Paris, a second in the possession of Baron Laugier at Paris, and a third in the collection of M. Baillon, of Abbeville, which had been taken in Picardy.

This species, and the Storm Petrel next to be described, are mostly obtained in this country during the violent gales of wind which sometimes occur about the vernal, or autumnal equinox, but particularly the latter. Several were procured during the stormy weather which occurred in the autumns of 1823, 1825, and 1831. So many examples have now been obtained, that it would be useless to enumerate the localities known. It may be sufficient to notice that it has been obtained on various occasions in all quarters of Ireland, and in almost every maritime county of England; sometimes under peculiar circumstances. Mr. T. C. Heysham, of Carlisle, sent me notice in November, 1841, of a Forked-tailed Petrel that was caught in a poke net set for fish in the Solway Frith. I obtained a bird that was sent alive to Leadenhall-market, but it was exhausted from want of food when brought to me, and died the same evening. Some are occasionally found in inland counties, at considerable distances from the sea, generally picked up dead or dying from starvation, having been driven far away from their usual sources of food. Mr. T. C. Eyton has recorded one taken near Shrewsbury, and now in his own collection; another was taken in Herefordshire; one at Chipping Norton, Oxfordshire; several near London; one near Saffron Walden; one at Bassingbourne, in Cambridgeshire; one in Derbyshire. The last I have received notice of was in November, 1842; this was one taken near Durham, and is now in the possession of the Rev. A. Shafto. It is included by M. Nilsson in his Fauna of Scandinavia.

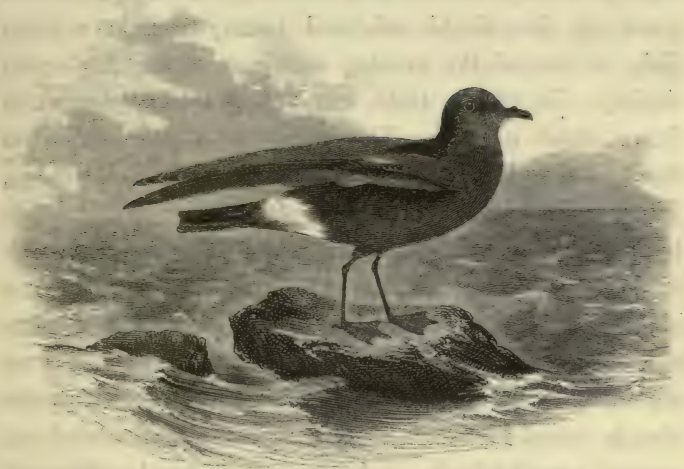
In its habits, as far as observed in this country, it resembles the Storm Petrel, breeding in sandy burrows, or holes of rocks, and laying one white egg of a roundish oval form, large for the size of the bird, measuring one inch four lines in length, and eleven lines in breadth.

Mr. Audubon, who has enjoyed many opportunities of observing these swallow-like Petrels during his ornithological researches in various parts of North America, as well as on his various voyages across the Atlantic, says, "The species of this genus with which I am acquainted, all ramble over the seas, both by night and by day, until the breeding-season commences; then they remain in their burrows, under rocks, or in their fissures, until towards sunset, when they start off in search of food, returning to their mates, or young, in the morning, and feeding them then. When you pass close to the rocks in which they are, you easily hear their shrill, querulous notes; but the report of a gun silences them at once, and induces those on the ledges to betake themselves to their holes. The Forked-tailed Petrel emits its notes night and day, and at not very long intervals, although it is less noisy than Wilson's Petrel. They resemble the syllables *pewr-wit*, *pewr-wit*. Its flight differs from that of the other two species, it being performed in broader wheelings, and with firmer flappings. It is more shy than the other species, and when it wheels off after having approached the stern of a ship, its wanderings are much more extended before it returns. I have never seen it fly close around a vessel, as the others are in the habit of doing, especially at the approach of night; nor do I think that it ever alights on the rigging of ships, but spends the hours of darkness either on the water, or on low rocks, or islands. It also less frequently alights on the water, or pats it with its feet, probably on account of the shortness of its legs, although it frequently allows them to hang down. In this it resembles the Storm Petrel, and Wilson's Petrel has a similar habit during calm weather. I have seen all the three species immerse their head into the water to seize their food, and sometimes keep it longer under than I had expected. The Forked-tailed Petrel, like the other species, feeds chiefly on floating mollusca, small fishes, crustacea, which they pick up among the floating sea-weeds, and greasy substances which they occasionally find around fishing-boats, or ships out at sea. When seized in the hand, it ejects an oily fluid through the tubular nostrils, and sometimes disgorges a quantity of food. I could not prevail on any of those which I had caught to take food." It is common on the banks of Newfoundland, and some parts of the coast of North America.

On the opposite side of the British Channel it has been taken on the coasts of Holland, Belgium, and France.

The bill is black; the irides dark brown; the head, neck, and back sooty black, the back rather the darkest in colour; wing-coverts rusty brown; the tertials tipped with white; upper tail-coverts white; primaries and tail-feathers black; the tail forked, the outer feathers being half an inch longer than those in the middle; breast and belly sooty black; behind each thigh, and extending over the sides of the vent and lateral under tail-coverts, an elongated patch of white; the vent and middle under tail-coverts sooty black.

The whole length of my bird seven inches and a quarter; from the anterior bend of the wing to the end six inches; the length of the leg one inch. The sexes in plumage are alike.



THE STORM PETREL.

Thalassidroma pelagica.

Procellaria pelagica,	*Stormy Petrel,*	Penn. Brit. Zool. vol. ii. p. 208.
" "	" "	Montagu, Ornith. Dict.
" "	" "	Bewick, Brit. Birds, vol. ii. p. 263.
" "	" "	Flem. Brit. An. p. 135.
Thalassidroma "	*Common Storm* "	Selby, Brit. Ornith. vol. ii. p. 533.
Procellaria "	" "	Jenyns, Brit. Vert. p. 285.
Thalassidroma "	" "	Gould, Birds of Europe, pt. xi.
Procellaria "	*Pétrel tempête,*	Temm. Man. d'Ornith. vol. ii. p. 810.
Thalassidroma "	*Thalassidrome* "	" " " vol. iv. p. 514.

The Storm Petrel, the smallest web-footed bird known, and the last of our British Birds in the arrangement here adopted, has so often been the subject of notice by naturalists and writers generally, and even by poets, that little of novelty remains to be told. A year seldom passes without some of these birds being obtained on our shores, and it has happened occasionally that they appear in large flocks. Thus Messrs. C. and J. Paget, in their Sketch of the Natural History of Yarmouth and its neighbourhood, mention, that in November 1824, between two and three hundred were shot after severe gales. Ten or twelve years ago Mr. Gould exhibited twenty-four, in a large dish, at one of the evening meetings of the Zoological Society. In March, 1825, one bird of this species, while flying about over the Thames between the bridges of Blackfriars and Westminster, was shot from a coal barge. These small birds are frequently driven by strong winds to great distances inland. Mr. Bicheno has recorded one taken near Newbury, in Berkshire, others have been taken in Oxfordshire; three or four are noticed as having been caught in the streets of the town of Coventry; and three within a few miles of Birmingham. This species appears also to breed freely at many different places around us, generally small islands; but is never observed to frequent land except during the breeding-season. Among some other notes recently referred to, Mr. D. W. Mitchell says, "the Stormy Petrel also breeds at Scilly, and is, as far as I know, confined to one locality, on the islet where the Thames steamer ran ashore, in the extreme S. W. of the group. It is the latest layer among the sea-fowl; the first egg I took was newly-dropped in the second week of June." Mr. Thompson mentions that this bird is at all times to be met with on the coast of Ireland, washed by the Atlantic, and breeds on several of the islets ranging from north to south of the western coast. Pennant found them in August, 1772, on the rocks called Macdonald's Table, off the north end of the Isle of Skye, and conjectured they bred there. They lurked under loose stones, but betrayed themselves by their twittering noise. Mr. John Macgillivray, who visited the Hebrides in July, 1840, says, "The Stormy Petrel is abundant in St. Kilda. The island of Soa is the principal breeding-place, where, as well as in several spots among the others of the group, it nestles among *débris*, and in crevices of the rocks. The bird sits very close upon the nest, from which it will allow itself to be taken by the hand, vomiting on being handled a quantity of pure oil, which is carefully preserved by the fowlers, and the bird allowed to escape. It is only at sunset and about day-break that I have observed the Stormy Petrel at sea, except during gloomy weather, save once, while crossing the Minch, being then not far from one of their breeding-places, at Dunvegan Head, in the Isle of Skye."

Mr. Scarth, when in Orkney, caught one on her nest in a small hole, and preserved her alive for three months in a cage, feeding her by smearing her breast with oil, which she sucked from the feathers, drawing each feather singly between her mandibles. Mr. Hewitson, thus notices the habits of this species at Foula, Papa, and Oxna. On the 31st of May these birds had not arrived on the breeding-ground, or, to use the phrase of the fishermen, had not yet come up from the sea. Some eggs were deposited as late as the 30th of June. Each female lays but one, which is oval and white, measuring one inch one line in length, by ten lines in breadth. During the day the old birds remain within their holes, and, when most other birds are gone to rest, issue forth in great numbers, spreading themselves far over the surface of the sea; the fishermen then meet with them very numerously, and, though they had not previously seen one, are sure to be surrounded by them upon throwing pieces of fish overboard. Mr. Dunn found these birds plentiful on the small islands near St. Margaret's Hope, in Orkney, and among the small islands lying off Scalloway, on the west side of the main land in Shetland; and observes that, though he had watched them for hours, he had never seen one dive.

The Storm Petrel is included by M. Nilsson in his

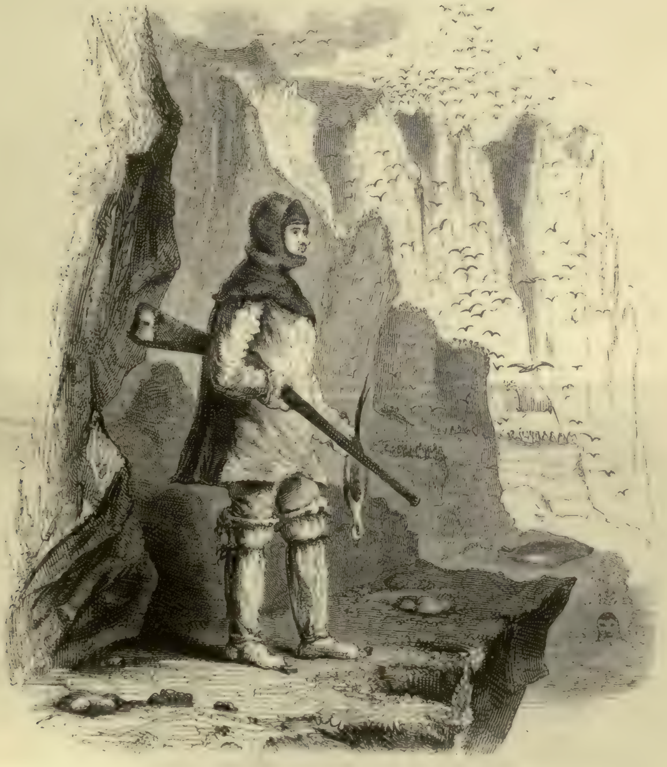
Fauna of Scandinavia; it breeds on the Faroe Islands and at Iceland. It roves over the greater part of the Atlantic, feeding on small fishes, crustacea, and mollusca to be found about the extensive masses of sea-weed which float upon the surface of the ocean. This bird will keep in company with a ship for many days, sometimes for shelter, but also for the sake of the various matters thrown overboard, as they are always ready to stoop and pick up bits of biscuit or meat. On examining the stomach of a Stormy Petrel, Mr. Couch found about half an inch of a common tallow-candle, of a size so disproportionate to the bill and throat of the bird, that it seemed wonderful how it could have been able to swallow it.

These birds are supposed to be seen only before stormy weather, and therefore not welcome visiters to sailors, who call them the Devil's birds, witches, and Mother Carey's chickens—the last name said to have been originally bestowed upon them by Captain Carteret's sailors, probably from some celebrated ideal hag of that name. Their habit of paddling along the surface obtained for them the name of Petrel, from the Apostle Peter, who walked on the water.

Mr. Wm. Borrer, jun., sent me notice that he took from rabbit-burrows in the Isle of Berhon, off Alderney, two specimens of the Storm Petrel, each had one white egg in its nest. M. Vieillot includes this species in his Birds of France. Several museums in Switzerland possess specimens obtained about the lakes of that country. M. Savi includes it in his Birds of Italy; it has been found at Madeira; and Dr. A. Smith brought specimens from South Africa.

The bill is black; the irides dark brown; head, neck, back, wings, and tail, sooty black; outer edges of tertials white; upper tail-coverts white; chin, throat, breast, belly, vent, and under tail-coverts, sooty black; sides of the vent white; legs, toes, and membranes black. The whole length of the bird not quite six inches; the wing, from the bend, four inches and five-eighths. The young bird, till twelvemonths old, is not quite so dark in colour; edges of wing-coverts rusty brown; no white on the margins of the tertials, and less white at each side of the vent.

The final vignette represents an Englishman at Iceland in the dress worn when collecting birds, taken from a drawing lent me by Mr. W. Proctor of Durham.



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